



# **PowerPanel® Business Edition**

## **User's Manual**

Rev. 6

2011/10/04

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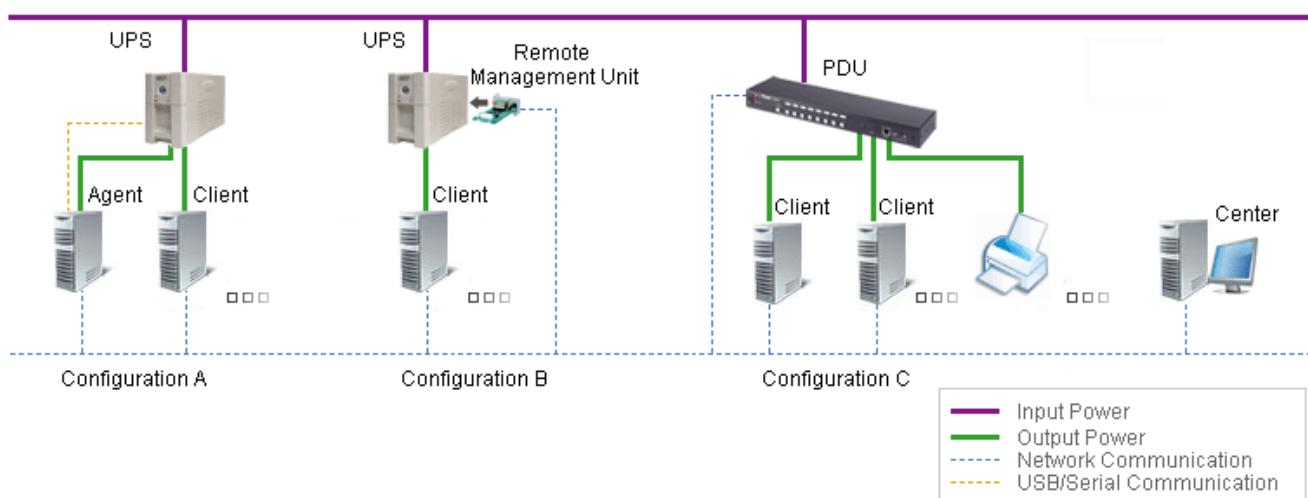
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## Introduction

**PowerPanel® Business Edition (PPBE)** software provides comprehensive advanced power management for UPS/PDU systems. It controls unattended shutdowns, scheduled shutdowns, and notifications for computers powered by the UPS (Uninterruptible Power Supply) or the PDU (Power Distribution Unit).

PowerPanel® Business Edition software consists of Agent, Client and Center. The Agent monitors and configures the UPS through the USB or serial connection. It logs the UPS status and power events, and generates action in response to events. The Client establishes communication with the Agent, UPS RMCARD and PDU, and generates actions according to notifications from the UPS/PDU when a power event occurs. The Center simultaneously monitors and controls multiple UPS/PDUs and computers which have Agent or Client installed via the local network. It also logs events and results about commands for power management.

The Agent should be installed on a single computer connected to the UPS with a USB or serial connection. The Agent controls the UPS and establishes communication with the Client if the **UPS has no remote management card**. The Agent relays the UPS state to each Client and the Client performs actions based on the notifications. Each computer powered by the UPS can be protected and controlled using the Client. In the event of power failure, the Agent will shut down the hosted computer and request the Client computers to shut down prior to the UPS shutting down. Refer to **Configuration A** of the PowerPanel® Business Edition structure illustration.



*PowerPanel® Business Edition structure*

A **UPS with a remote management card** has the ability to communicate with multiple computers which have Client installed and are on the same network and relay the UPS status to each Client. In the event of a power failure, each Client will request the hosted computer to shut down following notifications from the UPS. Refer to **Configuration B** of the PowerPanel® Business Edition structure illustration.

The Client also has the ability to communicate with a PDU. Each computer powered by a PDU can utilize the Client for protection and control. When a PDU outlet supplying power to a computer running Client is going to

be switched off, the Client will perform a shutdown prior to switching off the power. Refer to **Configuration C** of the PowerPanel® Business Edition structure illustration.

## Agent

Aside from the primary function of shutting systems down in the event of an outage, the Agent also provides the following functions:

- Unattended shutdown in response to various power conditions.
- User notification of power conditions.
- Flexible configuration of actions for each event and notifications via E-mail, Instant Message, and SMS.
- Run command files for custom applications.
- Historical logs of events and power conditions.
- Detailed load management for all powered equipment.
- Scheduled shutdown and restart.
- Status monitoring of the UPS and utility power.
- UPS configuration.
- Quick view system summary.

## Client

The Client provides unattended shutdown for the hosted computer following a notification from the UPS/PDU.

The Client also provides the following functions:

- Unattended shutdown in response to various power conditions.
- User notification of power conditions.
- Flexible configuration of actions for each specific event and notifications via E-mail, Instant Message, and SMS.
- Historical logs of power events.
- Quick view system summary.

## Center

The Center provides users the following functions for multiple:

- Simultaneous monitoring of multiple UPS/PDUs, equipment and computers which have Agent or Client installed.
- Control access to all monitored UPS, PDU, computers and equipment.
- Detailed load management between UPS/PDU and all powered computers/equipment.
- Equipment groups for easy monitoring or individual access.
- Viewing additional information and status of monitored UPS, PDU, computers and equipment.
- Historical logs for events and results about demands to power management.

# Getting Started

## Prerequisites

### Hardware Limitation

- 733 MHz or higher Pentium-compatible CPU.
- 256 megabytes (MB) of RAM recommended minimum; more memory generally improves responsiveness.
- Minimum of 150 MB of free space of hard disk.
- Serial port or USB port. (Required by the Agent)
- Network interface.

### Operating System

PowerPanel® Business Edition software can be installed on the following operation systems:

- **32-Bit Versions:**

- Windows 7
- Windows Server 2008
- Windows Server 2008 R2
- Windows Vista
- Windows Server 2003
- Windows XP
- Windows 2000
- Citrix XenServer 5 or later
- Red Hat Enterprise 5.1
- Fedora 7
- SUSE 10.1
- Debian 5.1
- Ubuntu 9.10

- **64-Bit Versions:**

- Windows 7
- Windows Server 2008
- Windows Server 2008 R2
- Windows Vista
- Windows Server 2003
- Windows XP
- Ubuntu 11.04
- Open SUSE 11.4
- VMware ESX/ESXi 4 or later

**Note:** Because of the abundance of different Linux builds, not all builds are tested with PowerPanel® Business Edition but most builds will be able to run the program.

## Web Browser

PowerPanel® Business Edition software is accessed using a web browser and is compatible with the following browsers:

- Microsoft Internet Explorer 7 or above
- Firefox 2.0 or above
- Google Chrome

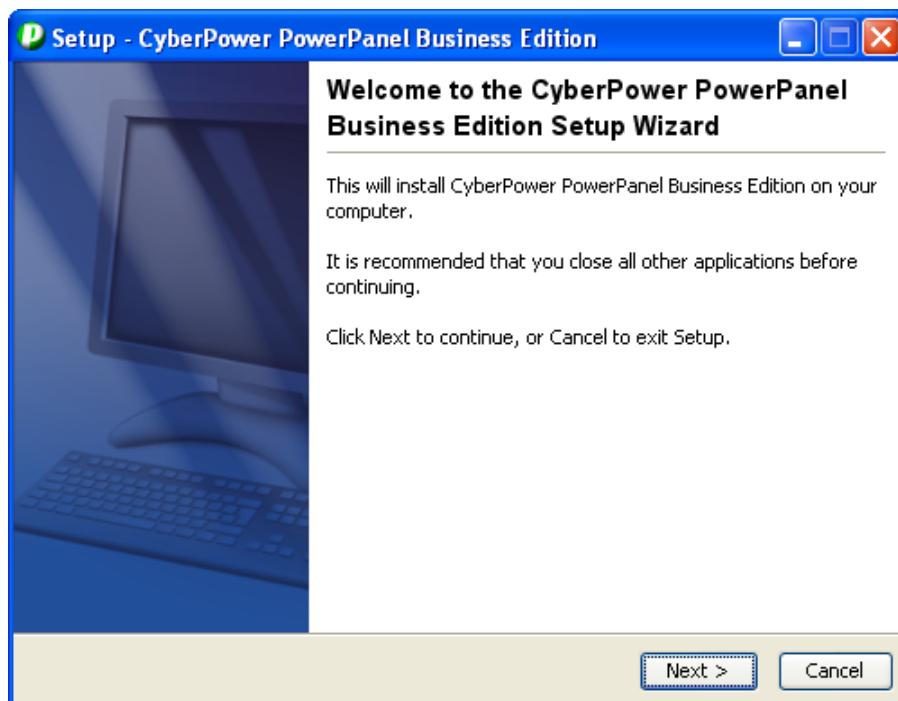
## Installation

### Installation on Windows

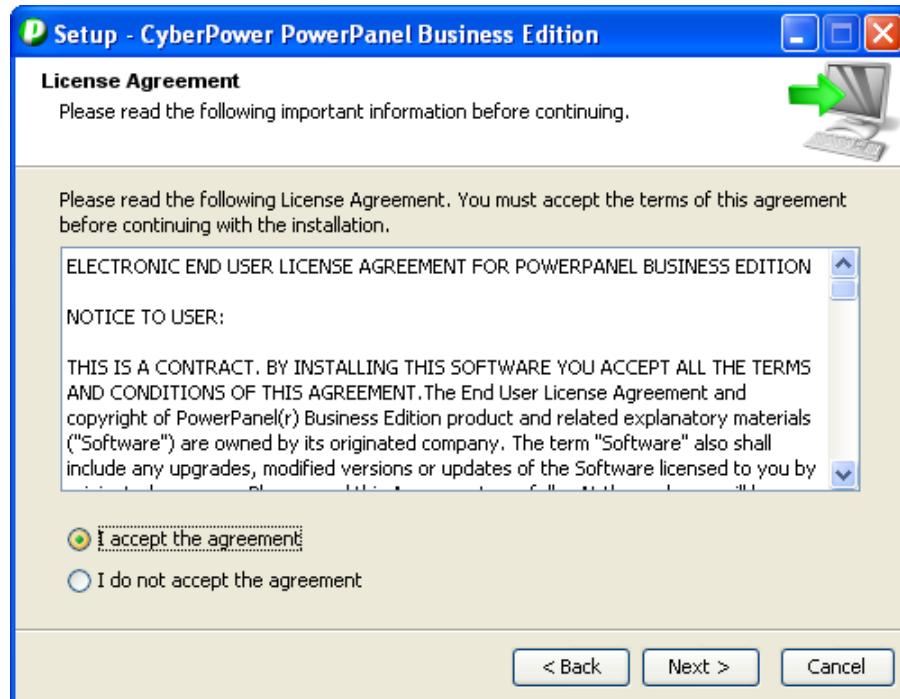
A pop-up window will be displayed automatically when inserting the PowerPanel® Business Edition installation CD. Users can click the **Install PowerPanel Business Edition** shortcut on the pop-up window to initiate the installation procedure. If the pop-up window is not displayed when inserting the CD, browse to the CD drive and open the folder which locates at **/Software/Windows**, and then double click the file named **Setup.exe** to start the installation procedure.

Use the PowerPanel® Business Edition installation CD to complete the installation on the target computer. To install follow these steps:

- Click the **Next** button to start an installation.

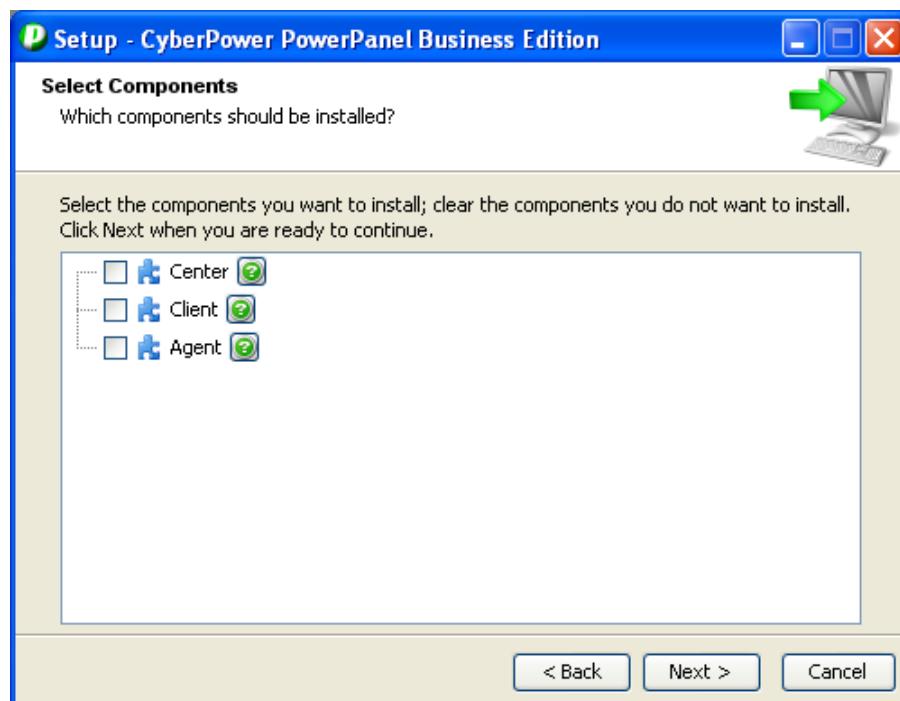


- Accept the license agreement.

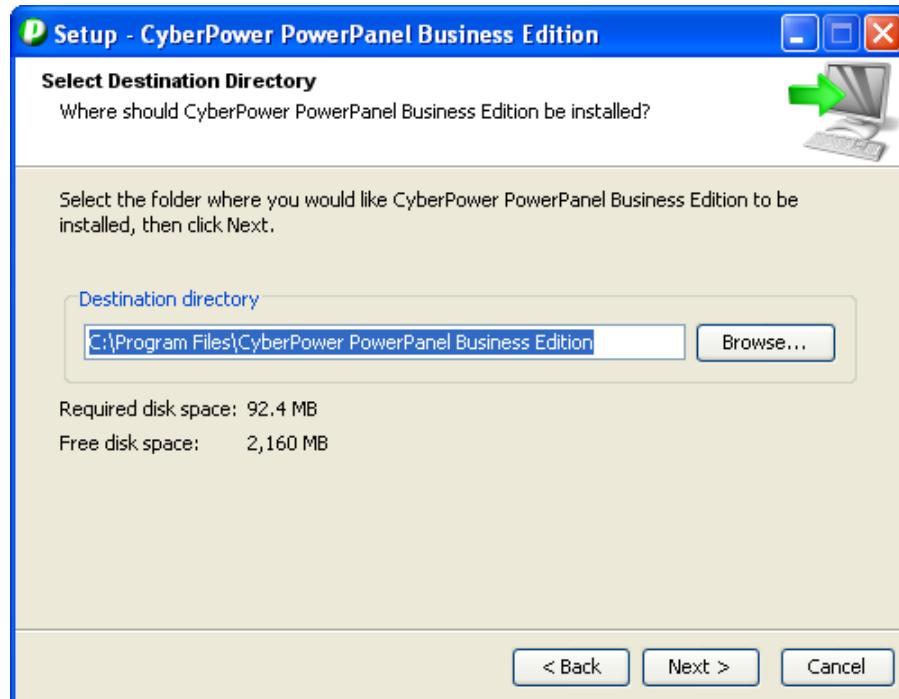


- **Choose the component.** If one single computer connected to the UPS directly via a USB or serial connection, Agent should be installed. If a computer is powered by a UPS with a remote management card or a PDU, Client should be installed. If administrator requires a simultaneous monitoring and access to multiple UPS/PDUs, equipment and computers on local network, Center should be installed.

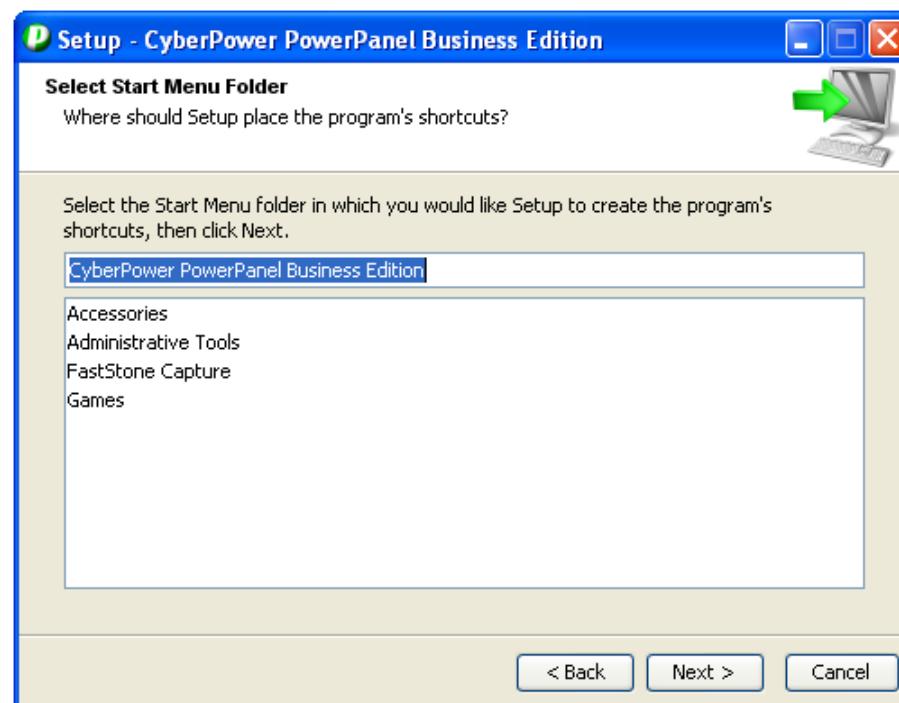
**Note:** Agent, Client and Center cannot be installed on the same computer.



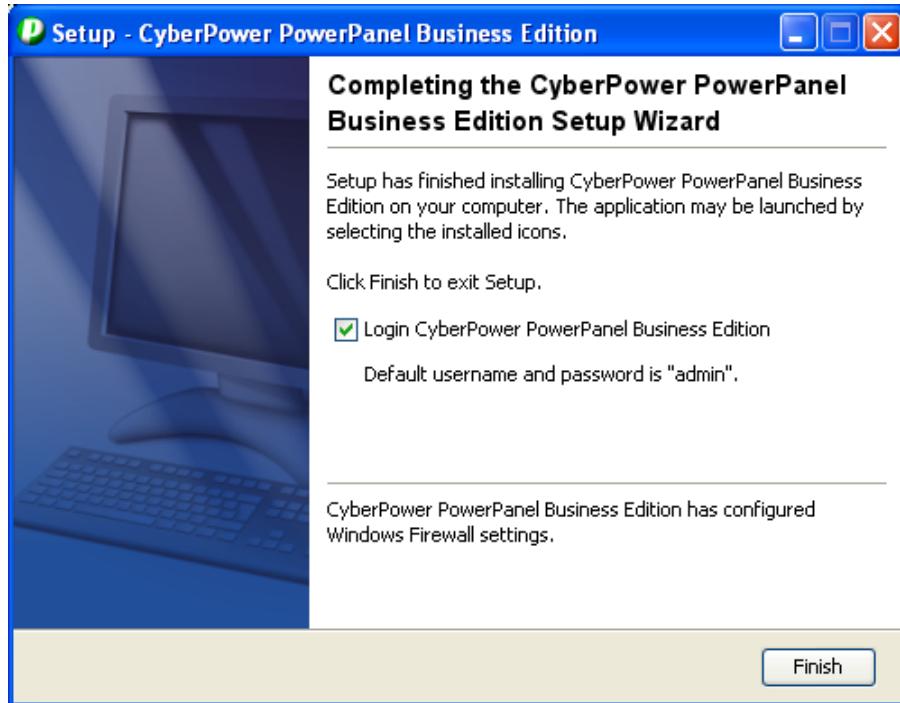
- Choose the destination directory.



- Choose the start menu directory.



- Click the **Finish** button to complete the installation.



## Installation on Linux

The installer is used to install the Client and requires root permission. The installation wizard will guide users in completing the installation. Browse to the CD drive and find the installer in the **/Software/Linux** folder. Initiate an installation wizard by running the **./ppbe210-linux-x86.sh** command or double clicking **ppbe210-linux-x86.sh** on 32-bit systems. Initiate an installation wizard by running the **./ppbe210-linux-x86\_64.sh** command or double clicking **ppbe210-linux-x86\_64.sh** on 64-bit systems.

*Note: On Linux systems, users may mount the CD by using the mount command. Run **mount -t iso9660 /dev/cdrom /mnt/cdrom** as a root user. **/dev/cdrom** is the CD drive and **/mnt/cdrom** will be the mount point.*

To install follow these steps:

- Click the **Next** button to start an installation.

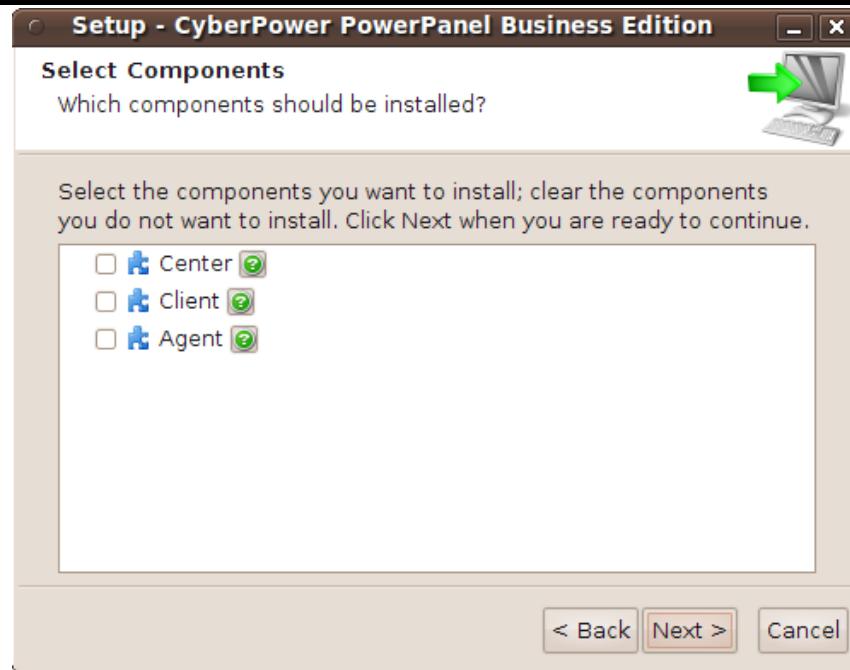


- Accept the license agreement.

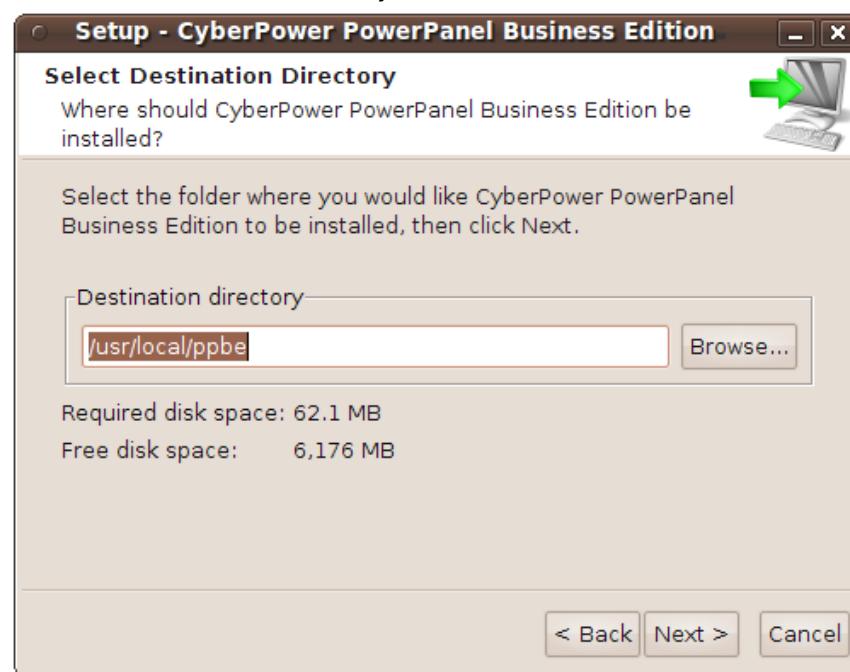


- **Choose the component.** If one single computer connected to UPS directly via a USB or serial connection, Agent should be installed. If a computer which is powered by the UPS with a remote management card or a PDU, Client should be installed. If administrator requires a simultaneously monitoring to UPS/PDUs, equipment and computers on local network, Center should be installed.

**Note:** Agent, Client and Center cannot be installed on the same computer.



- Choose the destination directory.



- The daemon **ppbed** will start during installation.



- Click the **Finish** button to complete the installation.



**Note:** If the Linux installation needs to be initiated in the terminal, use the `./ppbe210-linux-x86.sh -c` command on 32-bit systems or use `./ppbe210-linux-x86_64.sh -c` command on 64-bit systems. The detailed installation steps are described in the Installation on Citrix XenServer and VMware ESX/ESXi section.

## Installation on Citrix XenServer and VMware ESX/ESXi

The installer requires root permission to initiate the installation procedure. The installation wizard will guide users in completing the installation. Browse the CD drive and find the installer in the **/Software/Linux** folder. Initiate an installation procedure by running the `./ppbe210-linux-x86.sh` command on Citrix XenServer or running the `./ppbe210-linux-x86_64.sh` command on VMware ESX/ESXi.

Installation for **ESX** server must be launched in the **Service Console** (aka **Console Operation System**); installation for **ESXi** server must be launched in the **vMA (vSphere Management Assistant)** installed on the VMware ESXi host computer. Agent should be installed on the vMA of ESX/ESXi 4.1 or later versions, and Center and Client should be installed on the *Service Console in ESX or on the vMA in ESXi*.

Before installing Agent with the USB or serial connection, make sure that the platform running the Agent supports USB or serial connection. VMware ESX 4.1 and later versions support USB device passing through from an ESX or an ESXi to vMA. Citrix XenServer 5.0 and later versions support USB device.

**Note:** Users can deploy vMA on VMware ESXi. Visit [VMware](#) website for vSphere Management Assistant Guide document about vMA deployment on VMware ESXi.

**Note:** On VMware ESXi, users can also upload the installer to vMA by using vSphere Client tool. Visit VMware website to download vSphere Client tool and refer to FAQ chapter to know how to upload installer by using **vSphere Client** tool.

**Note:** On Citrix XenServer and VMware ESX/ESXi, users may mount CD by using the mount command. Run **mount /dev/cdrom /mnt/cdrom** as a root user. **/dev/cdrom** is the CD drive and **/mnt/cdrom** will be the mount point.

The installation procedure will be initiated as following steps:

- Press **Enter** to start an installation.

```
Starting Installer ...
This will install CyberPower PowerPanel Business Edition on your computer.
OK [o, Enter], Cancel [c]
```

- Accept the license agreement.

```
YOUR ACCEPTANCE OF THE FOREGOING AGREEMENT WAS INDICATED DURING
INSTALLATION.
```

```
I accept the agreement
Yes [1], No [2]
```

- Choose the component. If one single computer connected to the UPS directly via a USB or serial connection, Agent should be installed. If a computer which is powered by the UPS with a remote management card or a PDU, Client should be installed. If administrator requiring a simultaneously monitoring and access to PDUs and UPS units, equipment and computers on local network, Center should be installed.

**Note:** Agent, Client and Center cannot be installed on the same computer.

```
Which components should be installed?
```

```
1: Center
2: Client
3: Agent
```

```
Please enter a comma-separated list of the selected values or [Enter] for the de
fault selection:
```

- Choose the destination location.

```
Where should CyberPower PowerPanel Business Edition be installed?  
[/usr/local/ppbe]
```

- Installation procedure starts to process until the installation is complete.

```
Please wait for CyberPower PowerPanel Business Edition configuring  
Default username and password is "admin".  
CyberPower PowerPanel Business Edition may not do hibernation.  
Finishing installation...
```

**Note:** In order to allow the interactions between physical and virtual machines, VMware tools have to be installed on each virtual machine. Refer to VMware ESX/ESXi Server documentation for further information about VMware Tools.

## Accessing PowerPanel® Business Edition

The PowerPanel® Business Edition web interface can be accessed following the directions below. To access the web interface on a local computer, select **Start > All Programs > CyberPower PowerPanel Business Edition > PowerPanel Business Edition Agent, PowerPanel Business Edition Client or PowerPanel Business Edition Center** in the Windows Desktop or enter the **http://127.0.0.1:3052** as the URL in the browser.

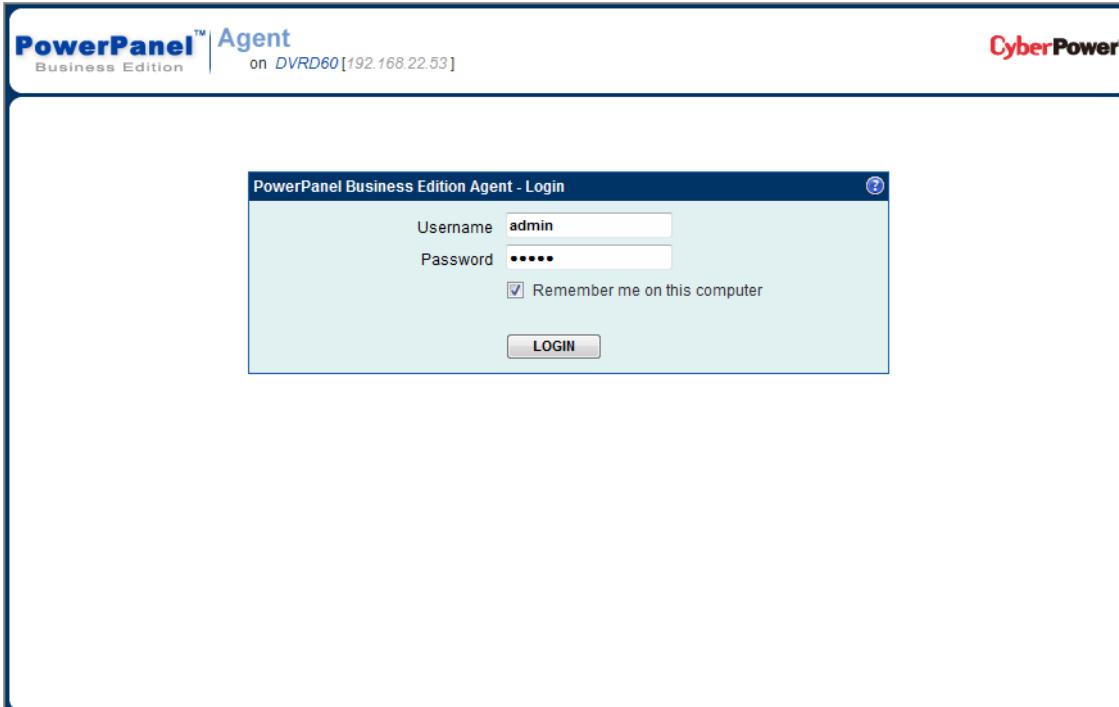


Launching PowerPanel® Business Edition software on a local computer

On Linux, users can enter **http://127.0.0.1:3052/** in the address of the web browser to access the interface. Users can also enter the URL, **http://127.0.0.1:3052/** in the local computer or **http://hosted\_computer\_ip\_address:3052/** in the remote computer, to the address field of the web browser to access the PowerPanel® Business Edition software web interface. **hosted\_computer\_ip\_address** is the IP address of the computer which has the PowerPanel® Business Edition software installed. For vMA on the ESX or ESXi, **hosted\_computer\_ip\_address** is the IP address of the vMA (**Note:** **hosted\_computer\_ip\_address** is the IP address of the host computer on ESX.).

## Login

The default username is **admin** and the password is **admin**. For security, it is recommended to change the username and password on the **Security/Login** page after the initial login.



The local and remote login pages are the same.

Selecting the *Remember me on this computer* option on the login page allows the credentials to be remembered for automatic logon at the next session. To terminate the session, click the **Logout** button on the **Logout** page. The session will timeout and you will be logged out if no activity takes place during the time of **Session Timeout**. The **Session Timeout** can be configured on the **Security/Login** page.

## Essential Setup

In order to ensure the PowerPanel® Business Edition software functions properly, make sure that the Agent, Client and Center have been configured correctly.

### Agent

- Make sure a USB or serial connection is connected between the Agent computer and the UPS.
- **NCL (Non-Critical Load)** outlets on specific models are designed to shut off, under certain circumstances, to save battery power and maximize the runtime on the remaining outlets. The Agent computer should not be connected NCL outlets. Refer to **PowerPanel Business Edition Installation Guide for UPS without RMCARD** for detailed information about how to plug the Agent computer into the correct outlets.
- Configure the *Necessary shutdown time* option properly on the **Event Action/Settings** page.
- Perform a battery test to verify the UPS can supply battery power to the connected equipment and the equipment operates properly. See the **UPS/Diagnostics** section for more details.

### Client

- Setup the SNMP community the same as in the remote management card of the UPS/PDU, or the Secret Phrase used by the Agent on the **Security/Authentication** page.

- Set the port used by Client on the **Security/Network** page to match the port used by the Agent's port.
- Assign the network address of the remote management card of the UPS, PDU or Agent, and assigning the connected outlet on the **Power/Configuration** page.
- Configure the *Necessary shutdown time* option on the **Event Action/Settings** page.

## Center

- In order to establish communication with the UPS, PDU, Agent or Client. Set the SNMP Community to the same one used in the UPS/PDU, or the Secret Phrase used by the remote card of UPS, PDU, Agent or Client on the **Security/Authentication** page.
- Setup that the port used by the Center on the **Security/Network** page to match the port used by the Agent or Client.

# Using PowerPanel Business Edition Agent and Client

## System

### Summary

The screenshot shows the PowerPanel Business Edition Agent interface. At the top, it displays "PowerPanel™ Business Edition" and "Agent" followed by the IP address "on DVRD60 [192.168.22.53]". The CyberPower logo is in the top right corner. A blue sidebar on the left contains links for System (Summary), UPS, Event Action, Logs, Schedule, Security, Preferences, Help, and Logout. The main content area is titled "System Summary" and has a sub-section "Summary" with the message "The UPS is working normally." There is also a small "i" icon in the top right of the summary area.

System/Summary page in Agent

In Agent, the **Summary** page provides an overview of the system operation. This includes the utility power status, operating status of the UPS, issues with the system and items requiring user attention.

In Client, the **Summary** page provides an overview of the system, including the communication status with the UPS/PDU, issues with the system and items requiring user attention.

## Information

(The content in this section is only applicable to the Client.)

Information	
Name	ERP Server
Location	Server Room, Rack A
Contact	Thomas, tel: #1234

System/Information page

The **Information** page shows detailed information about the Client as follows.

- **Name:** The name of the hosted computer, e.g. Web Server or Bill's Computer.
- **Location:** Where the hosted computer is located, e.g. Server room or Rack A.
- **Contact:** Who to contact about this hosted computer, e.g. someone's name, E-mail or phone number.

## UPS

(The content in this section is only applicable to the Agent.)

## Status

The UPS/status page displays detailed status on the **UPS power conditions, batteries, and system**.

UPS Status	
<b>Input</b>	
Status	Normal
Voltage	109.1 V
Frequency	59.9 Hz
<b>Output</b>	
Status	Normal
Voltage	109.9 V
Frequency	59.9 Hz
Load	0 %
NCL 1	On
NCL 2	On
<b>Battery</b>	
Status	Fully Charged
Capacity	100 %
Voltage	42.5 V
Remaining Runtime	7 hr. 20 min.
Remaining Charge Time	0 min.
<b>System</b>	
Status	Normal
Temperature	28 °C / 82 °F

UPS/Status page

## ***Input***

- **Status:** Displays the present status of the utility power supplied to the UPS.
  - **Normal:** The voltage and frequency of the utility power is normal.
  - **Blackout:** There is no utility power being supplied to the UPS and it is supplying battery power to connected equipment.
  - **Over Voltage:** The utility voltage is higher than the high voltage threshold and the UPS is using the battery to supply power.
  - **Under Voltage:** The utility voltage is lower than the low voltage threshold and the UPS is using the battery to supply power.
  - **Frequency Failure:** The frequency of the utility power is out of tolerance and the UPS is supplying battery power with a fixed frequency.
  - **Wiring Fault:** The UPS has detected a wiring fault in the outlet it is plugged into.
- **Voltage:** The voltage of the utility power supplied to the UPS.
- **Frequency:** The present frequency of the utility power supplied to the UPS.

## ***Output***

- **Status:** Displays the present status of the output power the UPS is supplying to connected equipment.
  - **Normal:** The output power is normal.

- **Bypass:** The UPS has switched to bypass mode and the utility power is being supplied directly to the connected equipment bypassing the UPS circuitry.

*Note: Bypass mode is only applicable in **Online Series** UPS units.*

- **No Output:** There is no output from the UPS. The UPS is switched off.
- **Short Circuit:** There is a short circuit on the UPS output. This causes the UPS to stop supplying output power.
- **Boost:** The utility voltage is below the regular voltage range. The UPS is increasing the output voltage closer to normal.
- **Buck:** The utility voltage is beyond the regular voltage range. The UPS is decreasing the output voltage closer to normal.

*Note: The Boost and Buck function are only available on a UPS with AVR. The UPS uses the AVR function to improve the utility voltage and supplies the power to its connected equipment within a narrow range.*

- **Overload:** The present load exceeds the load threshold of the UPS. Remove some equipment from the UPS to reduce the load.
- **ECO Mode:** On-line UPS enters Economy mode. The UPS will enter bypass mode according to thresholds for input voltage. Once the utility voltage exceeds thresholds, the UPS will supply battery power to its loads.
- **Manual Bypass:** The Online UPS enters Manual Bypass mode due the *Manual* option being enabled. The UPS will be forced to provide utility power to its equipment.
- **Voltage:** The output voltage that the UPS is supplying to the connected equipment.
- **Frequency:** The output frequency that the UPS is supplying to the connected equipment.
- **Load:** The power draw of the connected equipment expressed as a percentage of the total load capacity. This is displayed as watts on some UPS models.
- **NCL Outlet:** Displays the present status of the NCL outlet.
  - **On:** This outlet is turned on and supplying power to the connected equipment.
  - **Off:** This outlet is turned off and is not supplying power to the connected equipment.
  - **Pending On:** This outlet is going to turn on following an action such as a scheduled turn on.
  - **Pending Off:** This outlet is going to turn off following an action such as a scheduled turn off.

## **Battery**

- **Status:** Displays the present status of the battery packs.
  - **Fully Charged:** The batteries are at 100% capacity.
  - **Discharging:** The UPS is supplying battery power to support the load. This is caused by a utility power failure or battery test.
  - **Charging:** The batteries are charging.
  - **Capacity Critically Low:** The battery capacity is too low and the UPS may shut down immediately.
  - **Not Present:** There are no batteries present in the UPS.
  - **Testing:** The UPS is performing a battery diagnostic test. See the [UPS/Diagnostics](#) page for more details about the test results.

- **Normal:** The batteries are working normally.
- **Voltage:** The present voltage supplied by the batteries.
- **Remaining Runtime:** The amount of time that the UPS can supply power to its load.
- **Remaining Charge Time:** The remaining time the batteries required to be fully charged.
- **Capacity:** The present capacity of the batteries expressed as a percentage of full charge.

## System

- **Status:** Displays the present operating status of the UPS.
  - **Normal:** The operating status is normal.
  - **Fault:** The UPS is in fault state due to an internal malfunction.
  - **Overheat:** The temperature exceeds the normal temperature threshold.
- **Temperature:** The present internal temperature of the UPS. It is displayed in both Celsius (°C) and Fahrenheit (°F).

*Note: Not all models provide the same information. The information displayed will vary by model.*

## Information

UPS Information	
Information	
Model	PR1000LCDRTXL2Ua
Firmware Version	1.3.5
UPS Type	Sine Wave Line Interactive
V.A	1000 VA
Power Rating	750 Watts
Voltage Rating	110~130 V
Frequency Rating	47~63 Hz
Battery Replaced Date	2009/06/10
NCL Outlet	1
Extended Battery Pack	1
Installation Place	<a href="#">Find it</a>

UPS/Information page

The **UPS/Information** page shows information about the UPS:

- **Model:** The model name of the UPS.
- **Firmware Version:** The firmware version of the UPS.
- **Serial Number:** The serial number of the UPS.

- **UPS Type:** The type of the UPS. e.g. *On-Line*, *Line Interactive* or *Sinewave Line Interactive*.
- **Power Rating:** The Volt-Amp rating and power rating (Watts) of the UPS.
- **Current Rating:** The output current rating (Amps) of the UPS.
- **Voltage Rating:** The output voltage rating (Volts) of the UPS.
- **Frequency Rating:** The output frequency rating (Hz) of the UPS.
- **Battery Replacement Date:** The date that the batteries were last replaced. This can only be set at the time of battery replacement. This date should be set after the battery replacement. If this date has not been set, it is recommended that this date should be set immediately.
- **NCL Outlet:** The amount of the Non-Critical Load outlets.
- **LCD Firmware Version:** The firmware version of the LCD screen on the UPS.
- **USB Version:** The version of the USB chipset on the UPS.
- **Extended Battery Pack:** The amount of extended battery packs connected to the UPS.
- **Installation Place:** Clicking the **Find it** button will ask alarm to beep or indicators to blind in order to inform users of the location. This helps users to identify the specific UPS at installation sites with multiple UPS units.

*Note: Not all models provide the same information. The information displayed will vary by model.*

## Configuration

The **UPS/Configuration** page allows for customized UPS configurations to meet specific operational requirements.

**PowerPanel™ Agent**  
on DVRD60 [192.168.22.53]

**System**  
Summary

**UPS**  
Status  
Information  
▶ Configuration  
Diagnostics  
Load

**Event Action**  
Events  
Recipient  
Settings

**Logs**  
Event Logs  
Status Records  
Settings

**Schedule**  
Shutdown

**Security**  
Login  
Authentication  
Network

**Preferences**  
User Experience

**Help**  
Content  
About

**UPS Configuration**

**Utility Power Failure Condition**

High Voltage Threshold	143 Volt
Low Voltage Threshold	83 Volt

**Battery**

Low Battery Threshold	55 %
Extended Battery Pack	1

**System**

Cold Start	Enabled
Utility Power Failure Alarm	Disabled

**NCL Outlet**

Turn Off Threshold	15 %
Turn Off Delay	2 min.
Turn On Delay	20 sec.

**Apply**

## Supplied Power

- **Voltage:** Sets the output voltage which is supplied to the connected equipment.

*Note: On some models belonging to the Paragon Tower series, this setting becomes configurable in bypass mode and the changes require a restart to activate.*

- **Frequency Working Mode: Smart App Online** series support two frequency modes: **Follow-up** and **Fixed**. In the *Follow-up* mode, the UPS supplies power based off of the utility frequency. If utility frequency varies and is out of tolerance, the UPS supplies power with a fixed frequency to avoid supplying the connected equipment power at an improper frequency. The fixed frequency depends on the utility frequency as the UPS is starting.

In *Fixed* mode, the UPS supplies power at a fixed frequency without following utility frequency. When the input frequency is unstable, such as power supplied by generators, set the UPS to fixed mode to supply power with a stable frequency.

The UPS can be set to fixed mode to use this fixed frequency to supply power to the connected equipment if the equipment needs a different frequency from the utility power. For example, the equipment is rated at 50 Hz but utility frequency is at 60 Hz.

- **Follow-up Tolerance:** Sets the acceptable range of the output frequency on the **Follow-up** mode.
- **Fixed Frequency:** Sets the fixed value of the output frequency on the **Fixed** mode.

**Caution:** *The wrong frequency settings may damage the connected equipment. Make sure the selected frequency is correct for the connected equipment. An alert warning message will remind you of the following conditions:*

- *The frequency mode has changed from the **Follow-up** mode to the **Fixed** mode, and the fixed frequency is not equal to the utility frequency.*
- *The frequency mode is **Fixed** mode and the fixed frequency is going to be changed.*

- **ECO Mode Threshold:** The UPS will enter bypass mode according to the utility voltage if it is in range of thresholds or the utility frequency is in the 3Hz range of the utility frequency. If the utility voltage or the utility frequency exceeds thresholds, the UPS will supply battery power to its loads.

If this threshold is set to 10% and the current utility voltage is 120 V, the UPS will enter bypass mode and detect the utility voltage is ranged of 108 V ~ 132 V. Once the voltage threshold is exceeded, the UPS will supply battery power to its loads.

**Caution:** *Once the UPS is allowed to enter the **Fixed** mode, Generator Mode or Manual Bypass as the UPS has been functioned in the **ECO** mode, the UPS will leave **ECO** mode.*

## Power Failure Condition

When the utility power exceeds specific thresholds, the UPS will supply battery power to the connected equipment.

- **High/Low Utility Voltage Threshold:** Before utility power is provided to the UPS, the UPS will detect whether utility voltage exceeds the threshold. If utility voltage exceeds the threshold, the UPS will supply battery power to the connected equipment.
- **High/Low Output Voltage Threshold:** Before the UPS uses utility power as its output power, the UPS will detect whether utility voltage exceeds the threshold. If the utility voltage exceeds the threshold, the

UPS will supply battery power to connected equipment.

**Note:** *High/Low Utility Voltage Threshold & High/Low Output Voltage Threshold* settings only come into effect after a restart of the UPS.

- **High/Low Frequency Threshold:** When the utility frequency exceeds the threshold, the UPS will supply battery power at a fixed frequency to the connected equipment.
- **Detected Sensitivity:** When the UPS detects that utility voltage is out of range, the UPS will switch to battery mode to protect the equipment plugged into the UPS. Low sensitivity has a wider voltage range and the supplied power may vary more. The UPS switches to battery mode rarely and also saves more battery power. The power from fuel generator may cause the UPS to switch to battery mode more frequently, and the low sensitivity is recommended. High sensitivity allows the UPS to supply the more stable power to equipments but switches to battery mode frequently.

### **Power Restore**

When a utility power failure occurs, PowerPanel® Business Edition software may order the computer to shut down and power off after the specified remaining runtime is met or if the battery capacity is low. After the utility power is restored the UPS turns on automatically and supplies power to the computer. If the computer BIOS is set to boot when power is restored the computer will automatically restart.

The following settings are used to configure the UPS restore behavior:

- **Automatic Restore:** When this option is enabled, the UPS will restore output immediately when the utility power is restored. When this option is disabled, the UPS will not restore output at that moment and users have to turn it on manually.
- **Mandatory Power Cycle:** When a shutdown sequence is initiated due to a power failure, the connected computers may be ordered to shutdown once and the UPS will be also ordered to turn off after a time delay. If the utility power is restored prior to the UPS shutting off, the UPS will still turn itself off. In this circumstance, the utility power has restored, but the connected computers have shutdown and the UPS has turned off.

If the *Mandatory Power Cycle* option is enabled, the UPS will also turn off after a time delay, but it will turn on again about 10 seconds later. The UPS has restarted and then all connected computers will boot.

**Note:** *Most computers have the ability to boot when utility power is restored. Make sure this function is supported and enabled in the system BIOS.*

- **Recharged Delay:** When the utility power is restored, the UPS will start to recharge until the specified delay is expired before restoring output power.
- **Recharged Capacity:** When the utility power is restored, the UPS will start to recharge until the specified battery capacity is met before restoring output power.
- **Startup Delay:** When the utility power is restored, the UPS will delay the restoration of output power. This option can be used to stagger the startup time of multiple UPS to avoid overloading the utility power circuit or power source. The *Startup Delay* option will take effect every time when the UPS is about to restore power. This also includes the scheduling task.
- **Stable Utility Delay:** When the utility power is restored, the UPS will delay switching to normal operation from using battery power. If the battery capacity is lower than the Low Battery Threshold as power is

restored, the UPS will switch to normal operation immediately. This option can be used to prevent frequent outage due to unstable utility power.

### **Bypass Condition**

The Online UPS **series** supports the bypass function. When the UPS is in bypass mode, the utility power is supplied directly to the connected equipment. To configure whether the UPS is allowed to enter or remain in bypass mode in select from the following:

- **Qualification:** This configures the qualifications the UPS uses to determine if it will enter bypass mode when a UPS fault or overload occurs.
  - **Valid Volt. & Freq.:** If the utility voltage is in range of the voltage thresholds and the utility frequency is in range of the frequency tolerance, the UPS will enter bypass mode. Otherwise the UPS will stop supplying output power.
  - **Valid Voltage:** If the utility voltage is in range of the voltage thresholds, the UPS will enter bypass mode. Otherwise the UPS will stop supplying output power.
  - **Never Bypass:** If this option is selected, the UPS will not enter bypass mode and will stop supplying output power.
- **Mandatory:** If this option is enabled, the UPS always enters bypass mode, due to a fault or overload, even the utility voltage is outside of the normal range. Otherwise the UPS will stop supplying output power.
 

***Caution: The bad utility voltage on the bypass mode may damage the connected equipment.***
- **Manual:** Determines whether to allow the UPS to enter Manual Bypass mode. If this option is enabled, the UPS will be forced to enter bypass mode.
 

***Caution: Make sure that the UPS is not using generator power or converted power. When the UPS enters bypass mode, the UPS will use input power to supply to equipment. The unstable frequency of the input power may damage connected equipment.***

***Caution: If this option is enabled, the UPS can't function in the Generator mode.***
- **High/Low Utility Voltage Threshold:** When a UPS fault or overload occurs, UPS will determine whether to enter bypass mode according to range of thresholds fro utility power. If the utility voltage exceeds thresholds, UPS will be forbidden to enter bypass mode and will stop supplying output power.
- **Overload:** This configures the ability of the UPS to switch to bypass mode and supply utility power when the output is overloaded. Without this enabled the UPS will stop supplying power when overloaded.
- **Switch Off:** This determines whether the UPS will switch to bypass mode and supply utility power when the UPS is switched off.

### **Battery**

- **Prevent Excessive Discharge:** When the UPS uses the battery to supply power for output, a deep discharge with a low load can shorten the battery life. If this option is enabled, the UPS will stop supplying power after discharging for 4 hours to avoid a deep battery discharge.

- **Energy Saving:** When the utility power fails, the batteries will start discharging. If this option is enabled and there is no output load, the UPS will shut down to save battery power after discharging for 5 minutes. The UPS will restart automatically and restore output after the utility power is restored.
- **Low Battery Threshold:** When the UPS supplies battery power and the remaining capacity is lower than this threshold, the UPS will sound an alarm.
- **Battery Test Period:** The UPS will periodically perform the battery test to ensure the batteries are fully functional.
- **Extended Battery Pack:** Sets the amount of extended battery packs. This allows for an accurate runtime estimate based upon the total number of batteries.

## **System**

- **Cold Start:** Sets the ability of the UPS to start in the absence of input power. When this option is enabled the UPS can be turned on without having input power.
- **Short Circuit Recovery Detect:** When the output of the UPS causes a short circuit, the output will turn off immediately. If this option is enabled, the UPS will inspect the circumstance of the short circuit 3 times in 30 seconds. If the short circuit is no longer present, the UPS will restore power. If the circumstance of the short circuit still remains, the UPS will not supply power.
- **Utility Power Failure Alarm:** If this option is enabled, the UPS will issue an audible alarm when the utility power fails.
- **Overload Alarm Threshold:** When the output load exceeds this threshold, the UPS will issue an audible alarm.
- **Generator Mode:** If the UPS is using a generator for its input power, this option should be enabled for UPS to function normally. If this option is enabled, the UPS will be forbidden to enter bypass mode to protect the powered equipment.

***Caution: If this option is enabled, the UPS can't function in the Manual Bypass mode.***

- **Screen Saver Delay:** When no UPS button is pressed or no power event occurs during this delay, the LCD screen will be turned off.
- **Wiring Fault Detect:** If this option is enabled, the UPS will detect if the UPS wiring is not grounded or reversed. It is recommended to assure the UPS wiring has ground connection first. This option should be enabled if the UPS wiring has ground connection.
- **Dry Relay Function:** This configures the power condition for the UPS dry relay to function when the selected condition occurs. Refer to UPS manual for further information about advanced UPS dry relay utilization. The *Dry Relay Function* provides the following power conditions:

- **Utility Failure:** The utility power fails and the UPS is using the battery power.
- **Low Battery:** The battery capacity is low and cannot support the connected computers if they require a shutdown.
- **Alarm:** The UPS is issuing an audible alarm due to a warning event, such as *Overload*.
- **Bypass:** The UPS has switched to bypass mode due to an overload or UPS fault.
- **UPS Fault:** The UPS may be malfunctioning due to an internal problem, such as an inverter fault, bus fault or overheating.

## NCL Outlet

NCL stands for Non-Critical Load. Under the following conditions, the UPS will turn off the NCL outlet to conserve battery power and maximize battery runtime for the remaining outlets:

- Turn Off Threshold:** When supplying battery power, the UPS will power off this NCL outlet if the remaining battery capacity is lower than this threshold.
- Turn Off Delay:** When supplying battery power, the UPS will power off this NCL outlet after this delay time is met.
- Turn On Delay:** When the utility power is restored, the UPS will restore the output of this NCL outlet after the delay time is met. This prevents excessive power consumption caused by all the connected equipment starting at the same time.

*Note: Not all models provide the same configurations. These configurations will vary by model.*

## Diagnostics

The **UPS/Diagnostics** page provides the ability to verify that the UPS can supply adequate battery runtime for the connected computers to shutdown properly. Perform a complete runtime calibration to ensure an accurate estimate of the runtime for the connected load. The buzzer can be tested to ensure that the UPS can issue an alarm and that the indicator lights will display properly if requested by the UPS.

**PowerPanel™ Agent**  
on DVRD60 [192.168.22.53]

**CyberPower**

**System Summary**

**UPS**

- Status
- Information
- Configuration
- Diagnostics**
- Load

**Event Action**

- Events
- Recipient
- Settings

**Logs**

- Event Logs
- Status Records
- Settings

**Schedule**

- Shutdown

**Security**

- Login
- Authentication
- Network

**Preferences**

- User Experience

**Help**

- Content
- About

**UPS Diagnostics**

**Battery Test**

Last Test Result	Passed
Last Test Date	2010/06/30 06:31:13 PM

**Runtime Calibration**

Estimated Runtime	None
Last Calibration Result	Canceled
Last Calibration Date	2010/06/30 06:31:31 PM

**Alarm Test**

Last Processing Date	2010/06/30 06:31:31 PM
----------------------	------------------------

**Indicator Test**

Last Processing Date	2010/06/30 06:31:31 PM
----------------------	------------------------

*UPS/Diagnostics page*

## Battery Test

The **Battery Test** performs a battery test to verify that the batteries are good, and shows information including the result and the date of the last battery test. Click the **Initiate** button to begin a battery test. Performing a battery test is prohibited when the **Frequency Working Mode** option is set to *fixed*.

The results will be reported after a battery test completes:

- **Last Test Date:** The date the last battery test was performed.
- **Last Test Result:** The result of the last battery test:
  - **Passed:** The battery performed normally during the test.
  - **None:** The UPS has never performed the battery test.
  - **Failed:** The battery test resulted in failure.

Follow the below steps if the battery test fails:

- Repeat the battery test and replace the batteries if the test fails again.
- Contact [CyberPower](#) for assistance if the battery test fails after the batteries have been replaced.

## Runtime Calibration

The **Runtime Calibration** ensures the runtime estimate is accurate with the current load. The results show the runtime, the result, and the date of the last calibration. When a runtime calibration is initiated, the connected equipment will be run on battery power until the batteries are completely discharged. The batteries will be then automatically recharged following the calibration.

Users can click the **Start** button to initiate a runtime calibration. Click the **Cancel** button to interrupt the runtime calibration. The result will be reported after a calibration is finished or canceled:

- **Estimated Runtime:** The estimated runtime of the batteries.
- **Last Calibration Result:** The result of the last runtime calibration.
  - **Passed:** The runtime calibration completed and the batteries are good.
  - **None:** The UPS has never performed a runtime calibration.
  - **Failed:** The UPS failed during the runtime calibration.
  - **Canceled:** The calibration was interrupted.
- **Last Calibration Date:** The date the last runtime calibration was performed.

*Note: It is recommended to perform at least one calibration every 3 months.*

*Note: A complete calibration causes the battery capacity to deplete. Ensure the UPS is recharged completely after performing a calibration.*

## Alarm Test

The **Alarm Test** allows users to verify that the alarm can beep normally and shows the date of the last test. Click the **Initiate** button to begin an alarm test.

The details will be reported after an alarm test is complete:

- **Last Processing Date:** The date the last alarm test was performed.

### **Indicator Test**

Indicators on the front panel or on the LCD screen are used to present the UPS status. Once the indicators are malfunctioning, users won't know the current UPS status. The **Indicator Test** allows users to ensure whether indicators blink normally. Click **Initiate** button to begin an indicator test.

The details will be reported after an indicator test is complete:

- **Last Processing Date:** The date the last indicator test was performed.

## **Load**

The UPS supplies power to connected equipment, servers and computers. The Client can be installed on servers and computers in order to ensure a proper shutdown in the event the UPS batteries are depleted before the power problem is resolved. The **UPS/Load** page provides detailed information about the load and connected equipment.

**PowerPanel™ Agent**  
on XP-SP3 [192.168.24.59]

**CyberPower®**

**System Summary**

- UPS**
- Status
- Information
- Configuration
- Diagnostics
- Load**

### Load Management

Enabled	<input checked="" type="radio"/> Yes <input type="radio"/> No
PowerPanel Installed	<input checked="" type="radio"/> Yes <input type="radio"/> No
IP Address	192.168.24.59
Name	DVRD60
Location	Rack A
Contact	Torre, Tel: #4321
Outlet	#1 <input type="button" value="CL"/>

[Refresh](#)

#	Name	Location	Contact	IP Address	
1	DVRD60	Rack A	Torre, Tel: #4321	192.168.24.59	Hosted computer.
2	ERP Server	Rack A	Ray, Tel: #3412	<a href="#">192.168.24.64</a>	
3	Backup Server	Rack A	Madson, Tel: #5566	192.168.24.240	
4	Router A	Rack A	Billy, Tel: #1205		
5	Fan Controller	Rack A	Thomas, Tel: #1234		
6					
7					
8					

*UPS/Load page*

30

Users can manage connected loads and outlets from the *Load Management* page. All connected equipment and computers can be listed with detailed information including the name, location, contact, and what type of outlet the equipment is plugged into.

Agent computer is the default computer which is added into the list and can't be removed from the list. Users can only modify the name, location, contact and assign the outlet.

- **Add a new Client computer:** Click the target outlet you want to add a new piece of equipment to the list and then click **Yes** on the *Enabled* option. If the equipment has PowerPanel® Business Edition Client installed, click **Yes** on the *PowerPanel installed* option and enter the Client computer's IP address. Click the **Apply** button to finish adding the new equipment. After communication with the Client computer is established, the information such as the name, location, contact, and connected outlet will be obtained from the remote Client computer.

*Note: The Client computer is a remote computer which has PowerPanel® Business Edition Client installed. A computer without PowerPanel® Business Edition Client installed cannot establish communication with PowerPanel® Business Edition Agent.*

- **Add new generic equipment:** Click the target outlet you want to add a new piece of equipment to the list and then click **Yes** on the *Enabled* option. Click **No** on the *PowerPanel installed* option and enter the name and optional information for the equipment connected to the outlet. Click the **Apply** button to finish adding the new equipment.

*Note: The generic equipment mentioned is connected equipment of any type that does not run PowerPanel® Business Edition Client.*

- **Modify the equipment:** Click the equipment you wish to modify from the equipment list. After entering in the new data, click the **Apply** button to complete.
- **Remove the equipment:** Click the equipment you wish to remove from the equipment list. Click **No** on the *Enabled* option and then click **Apply** to complete the removal.

Assigning a correct outlet is important. The *Connected Outlet* option must be configured to match the actual equipment plugged into the UPS outlet. Depending on the UPS configuration of specific models with NCL outlets, these outlets will lose power before the entire UPS is shutdown. The Agent will request Client computers powered by these outlets to perform a shutdown to avoid data loss because of the power outage.

*Note: The Client computer name will be displayed in gray if communication with the Client computer is not established.*

#	Name	Location	Contact	IP Address	
1	DVRD60	Rack A	Torre, Tel: #4321	192.168.24.59	Hosted computer.
2	ERP Server	Rack A	Ray, Tel: #3412	<a href="#">192.168.24.64</a>	
3	Backup Server	Rack A	Madson, Tel: #5566	192.168.24.240	
4	Router A	Rack A	Billy, Tel: #1205		
5	Fan Controller	Rack A	Thomas, Tel: #1234		
6					
7					
8					

*Client computer is printed in gray when the communication is not established*

The equipment detailed settings and descriptions are as follows:

- #: Indicates which power outlet of the UPS is supplying power to the connected equipment. Use the Outlet Preview picture to verify the equipment is plugged into the correct outlet.
- **Bank:** The bank type of the power outlet on the UPS, e.g. *NCL*, *CL* or *Surge*.
- **Name:** The name of the equipment. A connected computer with PowerPanel® Business Edition Client installed has an icon marked with a "P". Generic equipment does not have the icon marked with a "P".
- **Location:** Where the power equipment is located.
- **Contact:** Who to contact about this equipment.
- **IP Address:** The IP address of the Client computer. This allows users to enter the Client's IP address or pick a device address by using the pull-down to show the device list. Clicking the refresh button (an icon with the rotating arrow) causes the Agent to search again for all Client computers on the local area network and update the results in the device list.



*Agent searches all Clients on local network.*

## Power

*(The content in this section is only applicable to the Client.)*

The Client can interact with a UPS or a PDU through a network interface. If the UPS has no remote management card, the Agent can be installed on a single computer which is using a USB or a serial connection directly to the UPS in order to establish the network connection to the Client.

## Information

The screenshot shows the PowerPanel Business Edition Client interface. The left sidebar contains navigation links: System Summary, Power (selected), Configuration, Event Action, Logs, Security, Preferences, Help, and Logout. The main content area is titled "Power Information" and includes a "Information" section with the following data:

Device Type	UPS
Model	PR1000LCDRT2U
Serial Number	17A6ZP000145
Firmware Version	3.4.6
UPS Type	Sine Wave Line Interactive
V.A	1000 VA
Power Rating	700 Watt
Current Rating	8.3 Amp
Voltage Rating	110~130 V
Frequency Rating	47~63 Hz
Battery Replacement Date	2009/2/27
NCL Outlet	1
External Batteries	None
Name	ERP_Server
Location	Server Room - Rack-A
Contact	Thomas, tel:#1100
IP Address	<b>192.168.20.173</b>

Power/Information page

The **Power/Information** page shows information about the UPS/PDU which supplies power to the Client computer as follows:

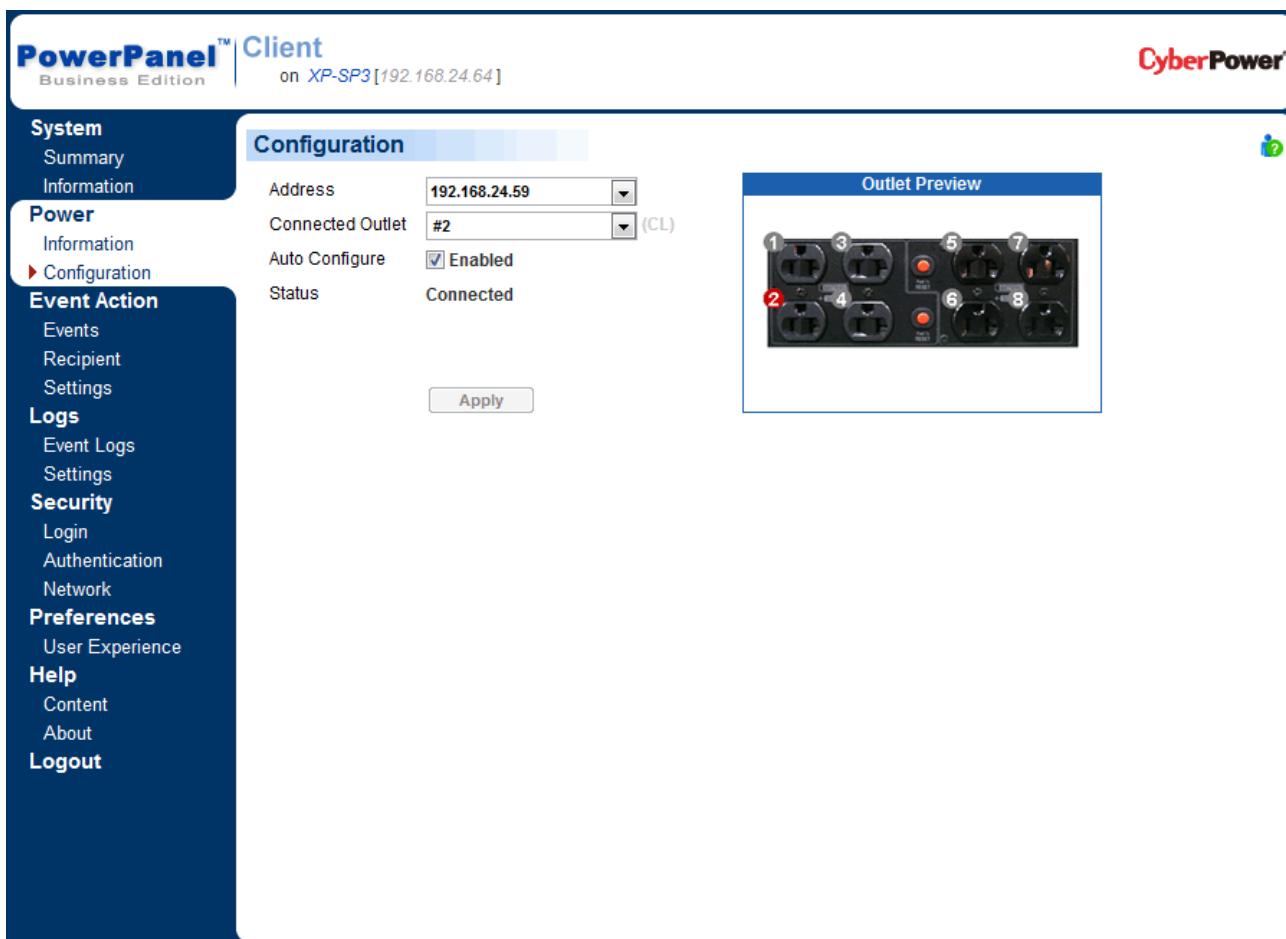
- **Device Type:** The type of the UPS/PDU, e.g. *UPS/PDU*.
- **Model:** The model name of the UPS/PDU.
- **Serial Number:** The serial number of the UPS/PDU.
- **Firmware Version:** The firmware version of the UPS/PDU.
- **UPS Type:** The type of the UPS. e.g. *On-Line* or *Line Interactive*.
- **PDU Type:** The type of the PDU. e.g. *Monitored* or *Switched*.
- **Power Rating:** The Volt-Amp rating and power rating (Watts) of the UPS.
- **Current Rating:** The output current rating (Amps) of the UPS/PDU.
- **Voltage Rating:** The output voltage rating (Volts) of the UPS/PDU.
- **Frequency Rating:** The output frequency rating (Hz) of the UPS.
- **Battery Replacement Date:** The date that the batteries were last replaced.
- **NCL Outlet:** The amount of NCL (Non-Critical Load) outlets in the UPS.
- **Extended Battery Pack:** The number of extended battery packs connected to the UPS.
- **Name:** The name of the UPS/PDU.
- **Location:** Where the UPS/PDU is located.

- **Contact:** Who to contact about the UPS/PDU.
- **MAC Address:** The MAC address of the UPS RMCARD, PDU or Agent's network interface.
- **IP Address:** The IP address of the UPS RMCARD, PDU or Agent's network interface. Click the hyperlink to open the web interface of the UPS RMCARD, PDU or Agent.

*Note: Not all models provide the same information. The information displayed will vary by model.*

## Configuration

In order for the Client to operate properly, the correct network address of power device, which is UPS RMCARD, PDU or Agent, must be assigned for the outlet. **Power/Configuration** page is used to configure the network address of power device and outlet assignment:



*Power/Configuration page*

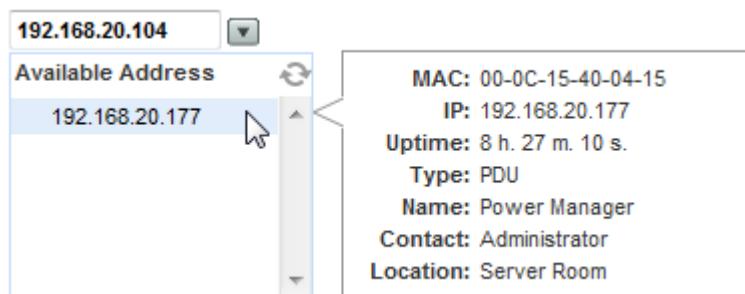
In order to establish communication between Client and the power device, the IP address must be configured in Client.

- **Address:** Assigns the network address of the power device. Enter the IP address or use the pull down to show the device list and select a device address from the list. Clicking the refresh button (the icon with the rotating arrow) forces the Client to search the local network for all power devices and update the results in the device list. After entering the IP address, the Client will update the *Connected Outlet* option and *Outlet Preview* according to the inquiry outlet information.

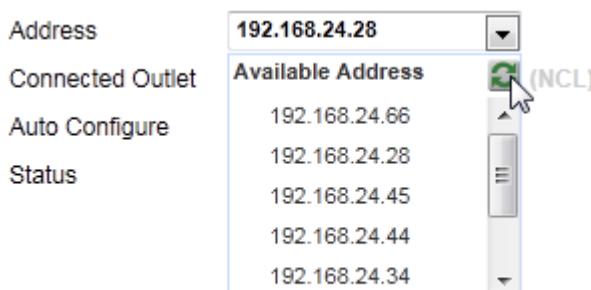
The Client searches the device with the least uptime to be a default power device after an installation.

Change to another device if the default one is not supplying power to the Client computer.

- **Connected Outlet:** Indicates which power outlet of the power device is supplying power to the Client computer. Use the outlet preview to verify whether the Client computer is connected to the proper outlet. The **Identify** button is only visible after the Client has established communication with the PDU; the identification function helps to identify which outlet has the connected equipment. The PDU will blink the outlet number on the LCD screen to verify the actual connection on the PDU matches when the **Identify** button is pressed.



*Move the cursor over the target address to display details about the device*



*Clicking the refresh button to search all devices again on the local network*

- **Auto Configure:** Any time the IP address of the power device is changed, the Client will lose communication with the power device. If this option is checked, the Client will scan the network and automatically acquire the new IP address of the power device.
- **Prevent Early Off:** When the Client detects that the PDU outlet which is powering the Client computer, is going to be shut off, the Client will prepare to shut down the hosted computer. If the necessary shutdown time of the Client computer is more than the delay off time of the outlet, the Client will stop the computer shutdown and signal the PDU to cancel to outlet turn off.
- **Status:** Displays the status of communication with the power device.
  - **Connected:** The Client is connected to the power device.
  - **Unreachable:** The Client cannot communicate with the power device. It may be due to incorrect settings such as the SNMP community or Secret Phrase, the wrong IP address, or a network problem.
  - **No address assigned:** The Client does not establish the communication with the power device. The communication has been cancelled by Client or power device.

- **Negotiation:** The Client is attempting to communicate with the power device at the specified network address. Negotiation may take 5-20 seconds. Clicking the red X icon can stop the negotiation process.

Address	<input type="text" value="192.168.24.45"/> <span style="font-size: small;">▼</span>
Connected Outlet	<input type="text" value="#4"/> <span style="font-size: small;">▼ (CL)</span>
Auto Configure	<input checked="" type="checkbox"/> Enabled
Status	<span style="color: blue; font-weight: bold;">Negotiation...</span> <span style="color: blue; font-size: small;">↻</span> <span style="color: red; font-size: small;">✖</span>

*Clicking the red X icon can stop the negotiation process*

**Note:** The communication between Client and power device can be cut off in Client. Clear the IP address and then click **Apply** button to send a request from the Client to cancel the communication.

### Easy-to-Setup Device IP

The uptime of the PDU indicates the length of time that the device has been functioning. When the Client scans the local network and updates the device list, the PDU with the uptime reset will be marked a yellow star icon. Pressing the **Reset** button for 1 second can reset the PDU uptime. Do not press the reset button for more than 4 seconds. Otherwise, all PDU settings will be reset to their default state.

Address	<input type="text" value="192.168.24.45"/> <span style="font-size: small;">▼</span>
Connected Outlet	<input type="text" value="Available Address"/> <span style="font-size: small;">↻</span>
Auto Configure	<span style="color: yellow;">★</span> 192.168.20.46 192.168.20.177
Status	

*A device with recently reset is marked with a yellow star icon.*

Troubleshooting the Client's inability to communicate with the power device:

- Verify the device network address is correct.
- Verify the network configuration for the device is correct. The **Power Device Network Utility** tool can be used to configure the device network configuration. The tool can be installed from the **tools** folder on the installation CD.
- Verify that the settings in the **Security/Authentication** page are correct and match the settings of the device. See **Security/Authentication** for more details.
- Verify the port in the **Security/Network** page is matched if the power device is Agent. An unmatched port results in communication failure or loss.
- Check that the network status of Clients and power devices.

- Verify that firewall settings. Port 3052(UDP/TCP), port 53568(TCP), port 162(UDP) and port 53566(UDP) should be unblocked. The Client communicates with the power device on these ports. The installer will automatically configure Windows firewall to allow PowerPanel® Applications to access through firewall.

The following messages may be displayed:

- **Detecting X.X.X.X is unsuccessful.** The power device may not be available on the local network because it is either turned off or the specified IP address is not the one used by this device. Make sure that the IP address is accurate and the power device is operating then click **Retry** to initiate outlet detection again.  
The USB cable or serial port between the Agent and the UPS may not be connected or the UPS RMCARD is installed improperly. Check the cable connections and the installation of the RMCARD and then click **Retry** to initiate outlet detection again.
- **The device address has changed to X.X.X.X. Client updated using the Auto Configure option.** The IP address of the power device has changed to a new one, and the Client has been configured to match the new IP Address.
- **Network communication can't be established. Make sure the devices network configuration is accurate.** The Client never establishes the communication with device due to improper network configuration on the device. See [Troubleshooting the Client's inability to communicate with the power device](#) section for more details to resolve this condition.
- **Network communication lost. Make sure the devices network configuration is accurate.** The network communication between the Client and the device has been lost. The device could be turned off and the Client is no longer aware of the condition from the device. See [Troubleshooting the Client's inability to communicate with the power device](#) section for more details to resolve this condition.
- **Can't fetch the outlet information. Make sure that the device local communication is connected.**  
The USB cable or serial port between the Agent and the UPS may not be connected or the UPS RMCARD could be plugged improperly. Verify the local communication is connected property.
- **The assigned outlet is in use. Please choose another outlet.** Indicates the assigned outlet is in used by another piece of equipment or computer. In order for the Client to perform a graceful shutdown, it is recommended to change to another outlet which is not in use.
- **The assigned outlet is off. Please choose another outlet.** The outlet assigned is not supplying power, and the wrong outlet may have been identified. Verify the correct outlet is selected. .
- **The assigned outlet has a turn off pending. The system will be shutdown soon.** The outlet being used by the Client computer will be switched off and will stop supplying power to the Client computer after the delay is finished. Save all unsaved files and shut down the hosted computer as soon as possible.
- **System may not shutdown properly because the off-delay is too short.** The Client detected the connected outlet has insufficient time for the hosted computer to perform a shutdown. The off-delay may be extended in the PDU web interface.

## Event Action

An event is generated when the UPS/PDU encounters specific power conditions. The PowerPanel® Business Edition software can be configured to respond to specific events and perform actions based on the event. These actions include notification, command execution and computer shutdown.

## Events

When an event occurs, PowerPanel® Business Edition software can notify administrators, execute a command and initiate a computer shutdown sequence. The **Event Action/Events** page lists events and the action settings for the events. The severity of each event is marked by a symbol. Severe level ( ) indicates users must be alerted and the computer shut down to avoid an improper shutdown. Warning level ( ) indicates a warning and users should be notified when it occurs. If a warning condition persists, a system shutdown may be imminent. Information level ( ) indicates the state of the UPS or that the utility power condition has changed.

No.	Event	Notify		Command		Shutdown
		Initiated	Repeat	Initiated	Duration	
1	Battery capacity is critically low	Instant	Inactive	Inactive	< 1 sec.	Inactive
2	UPS is faulty	Instant	Inactive	Inactive	< 1 sec.	Inactive
3	Local communication lost in a power event	Instant	Inactive	Inactive	< 1 sec.	Inactive
4	Remaining runtime will be exhausted	Instant	Inactive	Inactive	< 1 sec.	Inactive
5	Utility power failure	Instant	Inactive	Inactive	< 1 sec.	10 sec.
6	Output is overloaded	Instant	Inactive	Inactive	< 1 sec.	Inactive
7	Bypass is overloaded	Instant	Inactive	Inactive	< 1 sec.	Inactive
8	Batteries are not present	Instant	Inactive	Inactive	< 1 sec.	Inactive
9	Local communication lost	Instant	Inactive	Inactive	< 1 sec.	Inactive
10	Communication cannot establish	Instant	Inactive	Inactive	< 1 sec.	Inactive
11	Available runtime is insufficient	Instant	Inactive	Inactive	< 1 sec.	Inactive
12	Enters bypass mode	Instant	Inactive	Inactive	< 1 sec.	Inactive
13	Shutdown initiated	Instant		Inactive	< 1 sec.	
14	A schedule has initiated	Instant		Inactive	< 1 sec.	
15	Battery test is processing	Instant		Inactive	< 1 sec.	
16	Calibration initiated	Instant		Inactive	< 1 sec.	
17	Battery is fully charged	Instant		Inactive	< 1 sec.	

Event Action/Events page in the Agent

After selecting an event, the event will become configurable. Configure all of the action settings for the selected event and apply to save the settings.

5	Output is overloaded	Instant	Inactive	Inactive	< 1 sec.	Inactive
6	Bypass is overloaded	Instant	Inactive	Inactive	< 1 sec.	Inactive
7	Batteries are not present	Instant	Inactive	Inactive	< 1 sec.	Inactive

The clicked event item will be configurable.

Use these parameters to configure actions for individual events:

### Notify

The administrator can be notified when an event occurs. See **Event Action/Notification Recipient** page for more details about the notification methods and recipient assignment.

- **Initiated:** Determines whether to send a notification or not and sets the notification delay. If the event is cleared within the notification delay, the notification of the occurrence and the event cleared notification will not be sent.
- **Repeat:** Determines whether to send one additional notification after the initial notification. Only events which are of severe-level and warning-level type support a repeat notification.

### **Command**

A command will be executed when an event occurs.

- **Initiated:** Determines whether to execute a command and sets the delay for the command execution. If the event is cleared within the command execution delay, the command for this event and the corresponding event will not be executed.
- **Duration:** Sets the estimated time for the command to complete. If the event requires the computer to shut down, this delay provides time for commands and scripted actions to complete before the shutdown is initiated.
- **File:** Sets a command file to be executed when an event occurs. Shell scripts for the command file uses "cmd" as the filename extension. For more information about shell scripts read the detailed description in the "default.cmd" file in the "extcmd" folder in the PowerPanel® Business Edition installation directory. Customized shell scripts must be saved in the "extcmd" folder in the PowerPanel Business Edition installation directory. The command file will be listed on the *Command/File* list and can be executed when the power event occurs.

**Note:** *The command file name will be displayed in italics if the command file which had used cannot be found in the “extcmd” folder.*

### **Shutdown**

Initiate a shutdown sequence when an event occurs. A shutdown sequence is only initiated by events which are of severe-level and warning-level type.

- **Initiated:** Determines whether to request the computer to be shut down and the delay before initiating the shutdown sequence. The shutdown will be canceled if the event is cleared during this delay time. The minimum delay time to initiate shut down is based on the time set for the execution of the other actions to complete. This includes the notify delay time, command delay time and command execution time.

### **As**

This feature is used to apply identical settings to the particular event within the same category (Severe, Warning, and Information). Once the As field of one event have been assigned, the settings of this event will use the assigned event's settings. The settings of this event will match with an assigned event's.

No.	Event	Notify		Command		Shutdown Initiated	As
		Initiated	Repeat	Initiated	Duration		
1	Battery capacity is critically low	Instant	2 min.	5 sec.	10 sec.	default1	30 sec.
2	UPS is faulty	Instant	2 min.	5 sec.	10 sec.	default1	30 sec. #1
3	Local communication lost in a power event	Instant	Inactive	Inactive	< 1 sec.	default2	Inactive
4	Utility power failure	Instant	Inactive	Inactive	< 1 sec.		Inactive
5	Output is overloaded	Instant	Inactive	Inactive	< 1 sec.		Inactive

The settings of **UPS is faulty** event would be applied with the settings of the **Battery capacity is critically low** event.

## Event List

The **Event List** displays power events. The events displayed vary depending on whether they are listed in Agent or Client and which UPS/PDU is providing the events.

- **Battery capacity is critically low** - *Battery capacity is critically low; power could be lost immediately.*

- **Local communication lost in a power event** - *Communication with device has been lost during a power event.*

Communication between the Agent and the UPS using the USB or serial cable has been lost during a power failure.

- **UPS is faulty** - *UPS has malfunctioned, and is not working normally.*

- **Communication cannot establish** - *Communication failed to establish during startup.*

The Agent cannot establish communication with the UPS via USB or serial port, or the established communication has been interrupted.

- **Local communication lost** - *Local communication with the UPS has been lost.*

Local communication means the USB or serial connection between the Agent computer and UPS.

- **Batteries are not present** - *Batteries are not present, the UPS cannot provide battery power in this condition.*

- **Bypass is overloaded** - *Output is overloaded while in bypass mode.*

- **Output is overloaded** - *Output is overloaded, power may no longer be supplied soon.*

The power consumption of the connected equipment exceeds the maximum load rating of the UPS. The UPS may not continue to provide power if the overload condition is sustained.

- **Available runtime is insufficient** - *There is not sufficient runtime for a complete shutdown even if battery has fully recharged.*

This event will occur if the UPS has insufficient runtime for the Agent computer and all Client computers to shut down completely even the batteries have fully charged. An excessive load or long shutdown time may cause this event. Reduce some UPS load or set a more accurate shutdown time to avoid this event occurrence.

- **Enters bypass mode** - *Entering bypass mode, battery power protection will no longer be provided.*

- **Utility power failure** - *Utility power failure, battery power will be supplied.*

- **Remaining runtime will be exhausted** - *Remaining runtime will be exhausted and is not sufficient for a complete shutdown.*

When the UPS switches to battery mode due to power event, the battery power will be supplied to Agent computer and all Client computers in order to shut down completely. If battery power consumption continues, the remaining runtime will be exhausted. Agent and all Client computers should start a shutdown procedure immediately.

- **Battery test is processing** - *A battery test is active in order to verify that battery power can be provided normally.*

- **Output voltage is being boosted** - *Output voltage is being boosted from a lower level.*

The UPS is receiving utility power with low voltage and raising the voltage to a proper level for operating the connected equipment.

- **Output voltage is being bucked** - *Output voltage is being bucked from a higher level.*

The UPS is receiving utility power with high voltage and is lowering the voltage to a proper level for operating the connected equipment.

- **Calibration initiated** - *Calibration was initiated, the battery runtime will be evaluated.*

- **A schedule has initiated** - *A schedule has initiated, the system may be shutdown.*

- **Battery is fully charged** - *Battery has fully charged. The capacity of battery is full.*

- **Shutdown initiated** - *Shutdown process initiated.*

A shutdown process has initiated, and the system will shut down or hibernate.

- **Site Wiring Fault** - *The wiring fault detection is enabled and a site wiring fault is present.*

- **Enter ECO Mode** - *The UPS is in ECO mode.*

The UPS switches to bypass and starts to monitor whether the utility voltage and utility frequency is in range of the thresholds.

**Note:** *Batteries are not present* and *A schedule has initiated* events are only available in the Agent.

More events are available for the Client:

- **The output power is going to stop soon** - *Output power will stop due to power event or user commands.* When an UPS or a PDU is about to stop supplying the power to a Client computer, the Client will be notified. The Client will shut down the hosted computer.

- **Cannot establish network communication with Power Device** - *The communication with Power Device has been lost.*

The Client cannot establish communication with the UPS/PDU on the network or established communication has been interrupted.

- **Network communication lost with UPS in a power event** - *The communication with UPS has been lost after a power event occurred.*

When the utility power becomes abnormal and the UPS is using the battery to supply power, loss of network communication between the Client and the UPS causes the Client to generate a critical priority event because it cannot respond to changes in the status of utility and battery power.

More events are available for a PDU in Client:

- **Input is near overload** - *A PDU is near an overload condition.*

The load level is near the maximum safe load for the PDU.

- **Input is overloaded** - *A PDU is in an overload condition.*

The maximum safe load has been exceeded and the PDU is in an overload condition.

- **Shutdown time is insufficient** - *System shutdown time is insufficient.*

After communication with the PDU is established and the outlet assignment is set up, the Client will detect whether the connected outlet has sufficient time to allow for a shutdown. A sufficient shutdown time for the Client computer requires at least the sum of the *Necessary shutdown time* option and shutdown delay time as configured in the *The output power is going to stop soon* event.

## Notification Recipient

The Agent and Client can send notifications to multiple recipients in various ways, including Windows Alert Messages, Instant Messages and Mobile phone text messages (SMS). The **Notification Recipient** page lists all recipients in the recipient list and displays all defined notifications and whether the notification is active.

Active	Recipient Name	E-mail	XMPP	WLM	Alert	SMS	Plan
✓	Tomas	●	●	●	●		██████████
✓	Server Room - Admin	●	●	●			██████████
✓	Database Admin on PC2	●	●	●		●	██████████
✓	Backup Sever Admin	●	●	●		●	██████████
✓	File Sever users		●	●		●	██████████

Event Action/Recipient page

Recipients can be managed as follows:

- **Add a new recipient:** Click the **New Recipient** to have the blank notification recipient fields or use the data from a selected recipient. Enter all required data and click the **Add** button to add a new recipient to the list.

- **Modify the recipient:** Select the recipient you wish to modify. After entering in the new data, click the **Apply** button to complete.
- **Remove the recipient:** Select the recipient to remove from the recipient list, and then click **Remove** to complete the recipient deletion.

The recipient detail settings and descriptions are explained below:

- **Active:** States if the recipient is active.
- **Recipient Name:** The name of the recipient. The recipient name must be unique.
- **E-mail Address:** The E-mail address of the recipient.
- **XMPP Account:** The XMPP Instant Messaging account of the recipient. See [Event Action/Settings](#) for more details about XMPP.
- **WLM Account:** The Windows Live Messenger Instant Messaging account of the recipient.
- **Computer Username:** The computer user account name which is used to receive the windows alert messages. Due differences in the Messenger Service of different versions of Windows, please refer to the descriptions below:
  - If PowerPanel® Business Edition and the recipients are on **Windows 2000, Windows 2003** or **Windows XP** and or on a different computer, the service will work normally. The recipient on the remote computer should be formatted as **Server name/Users name**.
  - If PowerPanel® Business Edition and the recipients are on **Windows Vista, Windows Server 2008** or **Windows 7**, and then the alert messages will only be sent to a local user account on the computer running PowerPanel® Business Edition.

*Note: Computer Name filed and Alert column are only available on the PowerPanel Business Edition which installed on Windows. On Linux, if Linux Message service is activated, the message will be sent to all users on the computer running Client.*

- **Mobile Phone:** The mobile number of the recipient to receive the mobile text message. It must contain the country code.
- **Activation Day:** Configures the days on which recipients can receive the notification. Users can define the specific ways to notify the assigned administrators on different days.
- **Activation Time:** Configures the time which recipients will receive the notification. Users can define the specific ways to notify the assigned administrators during different times.
- **Enabled:** Displays which notification(s) are active for the recipient.
- **Test:** Sends the notification in accordance with current settings in order to verify the function. The service can be tested only when the corresponding service on the Event Action/Settings page is configured as activated.
- **Plan:** The dots and line indicates the specific days and time to send a defined notification to the recipient. When an event occurs at the activated time of the activated days, the notification will be sent to recipients.

Active	Recipient Name	E-mail	XMPP	WLM	Alert	SMS	Plan
✓	Tomas	●	●	●	●		
	Server Room - Admin	●	●	●			
✓	Database Admin on PC2	●	●	●		●	
✓	Backup Sever Admin	●	●	●		●	
✓	File Sever users		●	●		●	

The dots and the line indicate the specific time and day of the week to notify the recipient of the event

## Action Settings

**Settings** page allows for configuration of various event actions, including the necessary shutdown time of the hosted computer.

After configuring all of the action parameters, and applying the settings, the **Verify** button can be used to verify whether the user's configurations are correct. To test whether a notification is configured properly and a recipient can receive the notification successfully, use the **Test** function on the **Event Action/Notification Recipient** page.

Each action has its own **Activate** option to specify whether to use the service to send a notification. If **No** is checked, the **Verify** button and the corresponding **Test** function will be disabled. The column displayed in the recipient list will be marked gray to indicate that action is disabled.

### Shutdown

- **Necessary shutdown time:** This setting will set the amount of time which Agent and Client will take to shut down. The host computer will initiate the shutdown before power is stopped from the PDU or UPS in order to avoid a sudden blackout. This setting should be configured to allow for the normal shutdown time of the computer.

When Client connects to a PDU outlet, the shutdown time must be set properly to avoid the delay-off time of the connected inability to support a complete shutdown. When a PDU performs a sequenced off/reboot action, each outlet has a specified delay time (delay-off) before it is turned off. This delay time must be greater than the Necessary shutdown time required by a Client computer. The Client will communicate with the PDU to verify whether this delay time is sufficient. If the delay time is insufficient a warning message will display. The user can expand it and configure the outlet delay-off of the PDU or configure it in the PDU web interface manually. The warning message will be visible until these options are setup properly.

**Note:** This function must have write permission. See [Security/Authentication](#) for more details. If the Client is given write permission on the PDU it can setup the PDU directly.

## Shutdown

Necessary shutdown time  minutes Warning <<

The system may not shutdown properly due to insufficient time for the off-delay setting of PDU outlet #1.  
Configure the off-delay setting of PDU outlet #1 now?

Shutdown type

Shutdown ▾

*The Client will warn users there is insufficient time for a complete shutdown in the PDU.*

- Shutdown type:** This setting will specify the manner in which the Agent/Client computer is shutdown. The options are **Shutdown** or **Hibernation**. The Hibernation option is only visible on operating systems and hardware that support hibernation. When the Agent/Client shuts down the hosted computer using a Shutdown, any unnamed files will be saved automatically in a folder named **Auto Saved** in the **My Documents** folder.
- Also turn off UPS:** This setting is used for Agent to determine whether to turn off the UPS after the Agent and all Client computers are shutdown completely. If **Yes** is checked, the UPS will be turned off after the Agent computer shutdown. The output power supplied to all equipment will also be turned off. If users wish that all equipment can continue being supplying power by the UPS after the Agent computer shutdown, this setting should be checked **No**.
- VM Host:** In VMware ESX/ESXi or Citrix XenServer host, root permission is required and a host address must be specified in order to initiate a shutdown.
  - Host Address:** This is the address of the VMware ESX/ESXi host that will be shut down by the software in the event of a power outage.
  - Account:** This is the account name for VMware ESX/ESXi or Citrix XenServer host used by PowerPanel Business Edition. The account must have root access.
  - Password:** This is the password for the aforementioned account.

## E-mail

### E-mail

Activate	<input checked="" type="radio"/> Yes <input type="radio"/> No
SMTP server address	<input type="text" value="example.com"/>
Secure connection	<input checked="" type="radio"/> TLS <input type="radio"/> SSL <input type="radio"/> None
Service port	<input type="text" value="25"/> Default port: 587
Sender name	<input type="text" value="ppbe_user"/>
Sender E-mail address	<input type="text" value="ppbe_user@hotmail.com"/>
Authentication	<input checked="" type="radio"/> Yes <input type="radio"/> No
Account	<input type="text" value="ppbe_user"/>
Password	<input type="password" value="*****"/>

*Email service*

- Activate:** Specify whether the Agent/Client can use E-mail to send an email notification to recipients.

- **SMTP server address:** Configure the SMTP server that will be used to send E-mail to a recipient's mailbox.
- **Secure connection:** Sets which secure connection for the SMTP service to sent the E-mail.
- **Service port:** Sets the port number for the SMTP service to use.
- **Sender name & Sender E-mail address:** Configure the sender information for the E-mail.
- **Authentication:** Configure whether the SMTP server requires authentication or not. If authentication is required complete the necessary account and password field.
- **Account:** Sets the account to access the SMTP server.
- **Password:** Sets the password for the account.

### **Windows Live Messenger**

Using Windows Live Messenger Instant Messaging service, the Agent/Client can send an instant message to another user who has a WLM account. Users must provide a unique WLM account as a sender and assign another one as a receiver on **Event Action/Notification Recipient** page.

**Windows Live Messenger**

Activate	<input checked="" type="radio"/> Yes <input type="radio"/> No
Account	<input type="text" value="ppbe_user@hotmail.com"/>
Password	<input type="password" value="*****"/>
<input type="button" value="Apply"/> <input type="button" value="Verify"/>	

*Windows Live Messenger service*

- **Activate:** Specify whether the Agent/Client can use the Windows Live Messenger service to send an instant message to recipients.
- **Account:** Sets the account to access the Windows Live Messenger service.
- **Password:** Sets the password for the account.

### **XMPPTC Instant Messaging**

The XMPP (Extensible Messaging and Presence Protocol) is an open protocol for instant messaging. Users can setup the configuration to receive instant messages when an event has occurred. Users may contact a network administrator to verify if there is a XMPP Instant Messaging server in the network. If there is no XMPP Instant Messaging server, Google talk service can be used. Google Talk software can be downloaded and installed or Gmail can be used to receive event notifications via Google Talk. A local network XMPP Instant Messenger server can be setup by downloading open source XMPP Instant Messenger server software, such as [Openfire](#). More server software information can be found on [XMPP server software list](#).

### XMPP Instant Messenger

Activate	<input checked="" type="radio"/> Yes <input type="radio"/> No
Server address	<input type="text" value="talk.google.com"/> e.g. <a href="#">Google Talk</a>
Service name	<input type="text" value="gmail.com"/>
Service port	<input type="text" value="5222"/>
Account	<input type="text" value="ppbe_user"/>
Password	<input type="password" value="*****"/>


*XMPP Instant Messaging service*

To use XMPP Instant Messaging, users must provide a unique XMPP Instant Messaging Service account as a sender and assign different account as a receiver on **Event Action/Notification Recipient** page.

- **Activate:** Specifies whether the Agent/Client XMPP Instant Messaging service to notification is active or inactive.
- **Service address:** Sets the XMPP server address according to your XMPP Server configuration. Select [Google Talk](#) to use predefined settings for Google Talk service.
- **Service name:** Sets the service name on an XMPP Instant Messaging server. This option is usually not required. Contact the systems administrator of the server for the service name if required.
- **Service port:** The port number which the XMPP Instant Messaging server will use.
- **Account:** Sets the account to access the XMPP Instant Messaging server.
- **Password:** Sets the password for the account.

### Messenger Service/Terminal Services/Remote Desktop Services

#### Terminal Services

Activate	<input checked="" type="radio"/> Yes <input type="radio"/> No
Start service	<input checked="" type="radio"/> Yes <input type="radio"/> No

*Messenger service*

Messenger Service/Terminal Services/Remote Desktop Service only works on Windows platforms. Options are explained below:

- **Activate:** Specify whether the Agent/Client can use this service to send a notification to recipients.
- **Start service:** Start this service. If **Yes** is checked: this service will be used to send notifications to recipients.

*Note: Messenger service is available on Windows XP, 2000 and Server 2003, Terminal Services is available on Windows Vista and Server 2008, and Remote Desktop Services is available on Windows 7 and Server 2008 R2.*

## Linux Message

**Linux Message**

Activate	<input type="radio"/> Yes <input checked="" type="radio"/> No
<b>Apply</b>	
Linux Message	

- **Activate:** Specify whether the Agent and Client can use this service to send a notification to all users accessing to this hosted computer.

*Note: Linux Message service is only available of the Linux.*

## Short Message Service (SMS)

Short Message Service (SMS) is a communication service used by mobile communication systems, using standardized communications protocols allowing the interchange of short text messages between mobile devices.

The Agent/Client sends mobile text messages to a receiver's mobile phone using an online SMS service. Users can choose **Clickatell** as a platform to send SMS or any SMS provider which sends a message via E-mail or HTTP. All account information and E-mail/HTTP specification must be acquired from the service provider before using SMS. The different SMS providers are described below:

- **Service provider is Clickatell:**

Select the **Clickatell** option at the *Service Provider* field. Complete all the account details from Clickatell with the *Username*, *Password* and *HTTP API ID* fields. The **Verify** function can be used once the *Activate>YES* option is checked and this option is selected and parameters are applied.

**Short Message Service (SMS)**

Activate	<input checked="" type="radio"/> Yes <input type="radio"/> No
Service Provider	<input type="button" value="Clickatell"/>
User Name	<input type="text" value="ppbe_user"/>
Password	<input type="password" value="....."/>
HTTP API ID	<input type="text"/>
<b>Apply</b> <b>Verify</b>	
SMS (Short Message Service) service	

- **Service provider accepts HTTP POST to send messages:**

This specification from an SMS provider is required before using the HTTP POST method to deliver messages to SMS providers. Select the Using HTTP POST option at the *Service Provider* field. Insert

**EVENT\_ACTION\_PHONE\_NUMBER** as recipient's mobile phone number and

**EVENT\_ACTION\_MESSAGE** as the event message content described in the specification, and fill in the *URL* and *POST BODY* fields. The expressions will be replaced by the relevant content before the Agent/Client sends a notification to the SMS provider.

**e.g.**

**URL:** *http://send-sms-company.com/sms*

**POST Body:** *user=xxxxxx&password=xxxxxx &to=EVENT\_ACTION\_PHONE\_NUMBER*

*&text=EVENT\_ACTION\_MESSAGE*

- **Service provider accepts *HTTP GET* to sends messages:**

This specification from the SMS provider is required before using the *HTTP GET* method. Select the **Using HTTP GET** option at the *Service Provider* field. Insert the **EVENT\_ACTION\_PHONE\_NUMBER** as recipient's mobile phone number and the **EVENT\_ACTION\_MESSAGE** as event message's content described in the specification, and fill in the *URL* field. The expressions will be replaced by relevant content before the Agent/Client sends a notification to SMS provider.

**e.g.**

**URL:** *http://send-sms-company.com/sms?user=xxxxxx&password=xxxxxx*

*&to=EVENT\_ACTION\_PHONE\_NUMBER&text=EVENT\_ACTION\_MESSAGE*

- **Service provider accepts *E-mail* to send messages:**

This specification from an SMS provider is required before using the E-mail to deliver the messages to SMS providers. Select the **Using E-mail** option at the *Service Provider* field. Insert **EVENT\_ACTION\_PHONE\_NUMBER** as recipient's mobile phone number and the **EVENT\_ACTION\_MESSAGE** as event message content described in the specification. Fill in the *Address*, *Subject* and *Content* fields. The expressions will be replaced with relevant content before the Agent/Client sends a notification to the SMS provider.

**e.g.**

**Address:** *sms@send-sms-company.com*

**Subject:** *xxxxxx*

**Content:** *user:xxxxxx*

*password:xxxxxx*

*to:EVENT\_ACTION\_PHONE\_NUMBER*

*text:EVENT\_ACTION\_MESSAGE*

**Note:** Each message sent by the SMS system through the SMS provider will be subject to the SMS provider fee.

## Logs

### Event Logs

**Logs/Event Logs** page lets you view logs that record power event details in the Agent or the Client. The logs can be analyzed to determine whether the system and the power device are operating correctly.

The screenshot shows the PowerPanel Business Edition interface with the following details:

- Header:** PowerPanel™ Business Edition Agent on DVRD60 [192.168.22.53]
- Top Right:** CyberPower logo
- Time:** 2010/07/09 02:25 PM | Filter | ?
- Log List Headers:** Time ▾ and Event
- Log List Content:** A list of events from July 9, 2010, to July 8, 2010, detailing communication status and utility power changes.
- Page Navigation:** Previous 1 ~ 100 of 144 Next Refresh

Time	Event
2010/07/09 01:52:03 PM	! Communication failed to establish during startup.
2010/07/09 10:59:28 AM	! Communication failed to establish during startup.
2010/07/09 10:44:44 AM	! Communication failed to establish during startup.
2010/07/09 10:35:36 AM	! Communication failed to establish during startup.
2010/07/09 10:19:17 AM	i The Battery test was successful, battery is healthy.
2010/07/09 10:19:10 AM	i Process battery test to verify that battery power can be provided normally.
2010/07/09 10:18:15 AM	i Communication is established at startup.
2010/07/09 09:46:33 AM	i Communication with device has resumed.
2010/07/09 09:30:42 AM	! Communication failed to establish during startup.
2010/07/08 11:41:33 PM	i Communication with device has resumed.
2010/07/08 11:41:08 PM	! Local communication with device has been lost.
2010/07/08 11:41:03 PM	i Communication with device has resumed.
2010/07/08 11:41:03 PM	i Output voltage is being boosted from a lower level.
2010/07/08 11:40:57 PM	! Local communication with device has been lost.
2010/07/08 11:37:33 PM	i Communication with device has resumed.
2010/07/08 11:36:53 PM	! Local communication with device has been lost.
2010/07/08 11:36:37 PM	i Output voltage is normal and the boost will stop.
2010/07/08 11:34:55 PM	i Communication is established at startup.
2010/07/08 10:37:29 PM	i Output voltage is being boosted from a lower level.
2010/07/08 10:37:29 PM	i Utility power has been restored, battery power is stopped supplying.
2010/07/08 10:37:26 PM	i Output voltage is normal and the boost will stop.
2010/07/08 10:37:26 PM	! Utility power failure, battery power will be supplied.

#### Logs/Event Logs page

Using the **Previous** and **Next** at the upper right corner of the event log list helps users to view the other range of filtered log result backward or forward. Clicking **Refresh** will update the log result to display in the list according to the current filter options and paging settings.

The time displayed at the upper corner displays the local time of the hosted computer. This time may be different from the time on your computer.

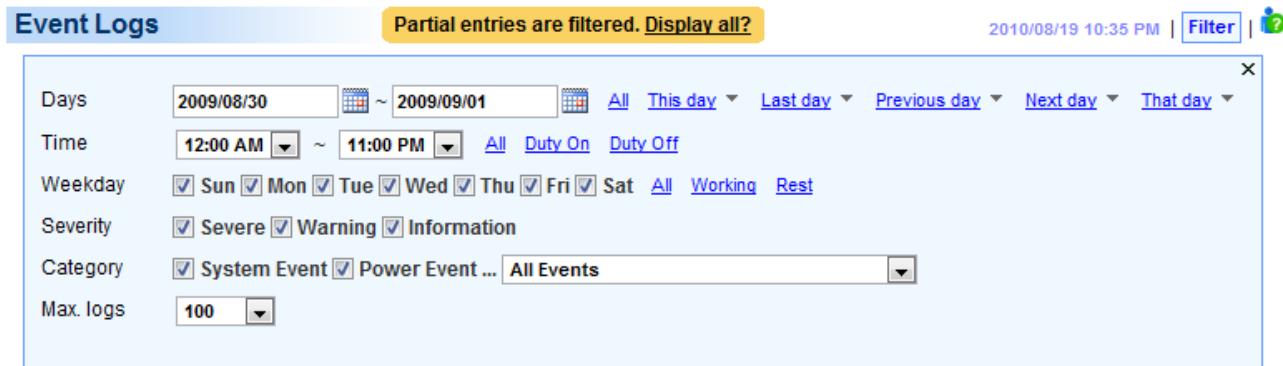
Detailed power status from the time of the event can be viewed in a pop up window when moving the mouse over a selected event.

Time	Event	Status
2009/09/01 01:03:09 AM	Communication with device has been established.	Input Volt 110.5V
2009/09/01 01:03:09 AM	Output voltage is being boosted.	Output Volt 109.6V
2009/09/01 01:03:09 AM	Utility power has been restored.	Supplying.
2009/09/01 01:02:44 AM	Communication with device has been established.	Input Freq 59.9Hz
2009/09/01 01:02:12 AM	Communication is established.	Load 7%
2009/09/01 01:02:12 AM	Utility power failure, battery is supplying.	Capacity 99%
2009/09/01 12:34:48 AM	Communication is established.	Runtime 7 hr. 12 min.
2009/08/31 11:35:21 PM	Communication is established at startup.	Startup.
2009/08/31 11:01:25 PM	The Battery test was successful, battery is healthy.	
2009/08/31 11:01:19 PM	Process battery test to verify that battery power can be provided normally.	

A pop-up status window is displayed from the selected event.

## Filter

The following filter options can be utilized by selecting **Filter** in the upper right corner. Once the configuration of the filter pane is configured; the logs will be requested and displayed.



Filter pane on Logs/Event page

- Days:** Selects the day(s) for the events to be displayed. The dropdown menus next to the **Days** setting can be used for additional preconfigured filters.
- Time:** Selects the time range for the events.
- Weekday:** Choose the days of the event occurrence.
- Severity & Category:** The events can be filtered by category and severity. The events can be further divided by **Power Event** and **System Event** categories, and choosing the specific event. When any event option is selected from the event list, the logs only related to this event will be displayed.
- Max. logs:** Indicates the maximum number of events that will be displayed.

## Status Records

The **Logs/Status Records** page is used to view the logs of the UPS status. This page is only available for the Agent.

**PowerPanel™ Agent**  
on DVRD60 [192.168.22.53]

**CyberPower**

[System](#)  
[Summary](#)  
**UPS**  
[Status](#)  
[Information](#)  
[Configuration](#)  
[Diagnostics](#)  
[Load](#)  
**Event Action**  
[Events](#)  
[Recipient](#)  
[Settings](#)  
**Logs**  
[Event Logs](#)  
▶ [Status Records](#)  
[Settings](#)  
**Schedule**  
[Shutdown](#)  
**Security**  
[Login](#)  
[Authentication](#)  
[Network](#)  
**Preferences**  
[User Experience](#)  
**Help**  
[Content](#)  
[About](#)  
[Logout](#)

Status Records							
<small>2010/07/09 02:25 PM   Filter   ?</small>							
Time ▾	Input Volt(V)	Output Volt(V)	Input Freq(Hz)	Output Freq(Hz)	Load(%)	Capacity(%)	Runtime(min.)
2010/07/09 10:18:15 AM	108.3	0	59.9	0	0	100	7 hr. 20 min.
2010/07/09 10:10:42 AM	109.2	0	59.9	0	0	100	7 hr. 20 min.
2010/07/09 10:00:42 AM	107.0	0	60.0	0	0	100	7 hr. 20 min.
2010/07/09 09:50:42 AM	107.2	0	60.0	0	0	100	7 hr. 20 min.
2010/07/09 12:04:55 AM	110.0	125.0	N/A	60.0	0	100	8 hr. 10 min.
2010/07/08 11:54:55 PM	110.0	125.0	N/A	60.0	0	100	8 hr. 10 min.
2010/07/08 11:44:55 PM	109.0	124.0	N/A	60.0	0	100	8 hr. 10 min.
2010/07/08 11:34:55 PM	109.0	124.0	N/A	60.0	0	100	8 hr. 10 min.
2010/07/08 11:27:16 PM	110.0	125.0	N/A	60.0	0	100	8 hr. 10 min.
2010/07/08 11:17:16 PM	111.0	125.0	N/A	60.0	0	100	8 hr. 10 min.
2010/07/08 11:07:16 PM	110.0	125.0	N/A	60.0	0	100	8 hr. 10 min.
2010/07/08 10:57:16 PM	110.0	125.0	N/A	60.0	0	100	8 hr. 10 min.
2010/07/08 10:47:16 PM	110.0	125.0	N/A	60.0	0	100	8 hr. 10 min.
2010/07/08 10:37:16 PM	111.0	125.0	N/A	60.0	0	100	8 hr. 10 min.
2010/07/08 10:27:16 PM	111.0	125.0	N/A	60.0	0	100	8 hr. 10 min.
2010/07/08 10:17:16 PM	110.0	125.0	N/A	60.0	0	100	8 hr. 10 min.
2010/07/08 10:07:16 PM	111.0	125.0	N/A	60.0	0	100	8 hr. 10 min.
2010/07/08 09:57:16 PM	111.0	127.0	N/A	60.0	0	100	8 hr. 10 min.
2010/07/08 07:11:57 PM	108.2	109.5	60.0	60.0	0	100	7 hr. 20 min.
2010/07/08 06:32:20 PM	108.7	109.8	60.0	60.0	0	99	7 hr. 19 min.
2010/07/08 06:22:20 PM	108.7	109.5	60.0	60.0	0	99	7 hr. 18 min.
2010/07/08 06:12:20 PM	108.1	109.5	60.0	60.0	0	99	7 hr. 19 min.

Logs/Status page

Additional log pages can be accessed by selecting **Previous** and **Next** in the upper right corner of the **Status Records** page. Clicking **Refresh** will update the log result to display in the list according to the current filter options and paging settings

The time displayed at the upper corner displays the local time of the hosted computer. This time may be different from the time on your computer.

### Filter

Users can use the following filter options by clicking **Filter** in the right corner. Once the configuration of the filter panel is changed, the filtered logs will be displayed.

**Status Records**      Partial entries are filtered. [Display all?](#)      2010/08/19 10:37 PM | [Filter](#) | [?](#)

Days	2009/08/30	~	2009/09/01	All	This day	Last day	Previous day	Next day	That day
Time	12:00 AM	~	11:00 PM	All	Duty On	Duty Off			
Weekday	<input checked="" type="checkbox"/> Sun	<input checked="" type="checkbox"/> Mon	<input checked="" type="checkbox"/> Tue	<input checked="" type="checkbox"/> Wed	<input checked="" type="checkbox"/> Thu	<input checked="" type="checkbox"/> Fri	<input checked="" type="checkbox"/> Sat	All	Working Rest
Max. logs	100								

Filter pane on Logs/Status page

- **Days:** Selects the day(s) for the status records to be displayed. The dropdown menus next to the **Days** setting can be used for additional preconfigured filters.
- **Time:** Selects the time range of the status records.
- **Weekday:** Choose the days of the status records.
- **Max. logs:** Indicates the maximum number of status records that will be displayed.

## Settings

The **Logs/Settings** page allows for the ability to configure the log options. Click the **Apply** button to save the settings or remove all logs.

**Logging Settings**

**Event Logging**

Entry Expiration	<input type="button" value="1 week"/>
Clear All Logs	<input type="radio"/> Yes, Now. <input checked="" type="radio"/> No

**Status Recording**

Enabled	<input checked="" type="radio"/> Yes <input type="radio"/> No
Recording Interval	<input type="button" value="10 min."/>
Entry Expiration	<input type="button" value="1 week"/>
Clear All Records	<input type="radio"/> Yes, Now. <input checked="" type="radio"/> No

Logs/Settings page in the Agent

### Event Logging

- **Entry Expiration:** This option specifies how long the log files will be retained..
- **Clear All Logs:** When this option selected with **Yes, Now**, all event logs will be removed immediately after clicking **Apply**. The log clearing is permanent and once applied the log files cannot be recovered.

### Status Recording

- **Enable:** If this option is enabled, the Agent will start to record the UPS status.
- **Entry Expiration:** This option specifies how long the log files will be retained.
- **Recording Interval:** The Agent will record the UPS status at the specified intervals.

- **Clear All Records:** When this option selected with **Yes, Now**, all record status logs will be removed immediately after clicking **Apply**. The log clearing is permanent and once applied the log files cannot be recovered.

## Schedule

### Shutdown

In the Agent, an active schedule will cause the computer to shut down or hibernate, and then ask the UPS to completely power off the output or turn the specific outlets off at a specified date and time. It also allows users to specify the date and the time to turn on output or turn the specific outlets on. The UPS will turn on the specific outlets and begin supplying power which causes the computer to restart or wake from the hibernation.

Before the Agent shuts down because of a schedule shutdown, Client computers running PowerPanel® Business Edition Client will be shut down or hibernated to prevent data loss.

The **Schedule/Shutdown** page manages scheduled shutdowns and lists all configured schedules. Each schedule row displays the details of when the schedule will take effect and when to perform it. The time displayed at the upper right corner is the local time of the hosted computer. If you are connected to a remote Agent this time may be different from the time on your computer.

The screenshot shows the PowerPanel Business Edition Agent interface. The top navigation bar displays "PowerPanel™ Business Edition" and "Agent" on "DVRD60 [192.168.22.53]". The left sidebar menu includes links for System Summary, UPS Status, Information, Configuration, Diagnostics, Load, Event Action Events, Recipient, Settings, Logs Event Logs, Status Records, Settings, Schedule Shutdown, Security Login, Authentication, Network, Preferences User Experience, Help Content, About, and Logout.

The main content area is titled "Scheduled Shutdown". It contains the following configuration fields:

- Active: Radio buttons for Yes (selected) and No.
- Bank: A dropdown menu set to "All" (DXRD94, 23...).
- Frequency: A dropdown menu set to "Once".
- Shutdown Time: A date and time picker set to "2011 / 6 / 14 PM 2 : 4".
- Restore: Radio buttons for Yes (selected) and No.
- Restore Time: A date and time picker set to "2011 / 6 / 14 PM 3 : 4".
- Comment: A text input field.

Below the configuration fields are buttons for "Add", "Apply", "Remove", "Cancel", and "New Schedule".

A table below the configuration fields lists existing shutdown schedules:

Active	Shutdown Time	Restore Time	Frequency	Bank	Comment
✓	2011/10/09 11:32 AM	2011/10/09 12:32 PM	Once	All	Test Schedule
✓	2011/10/09 02:32 AM	2011/10/09 02:32 AM	Once	All	ERP shutdown & maintain...
✓	2009/10/19 05:29 PM	2009/10/19 06:29 PM	Daily	NCL	force shutdown for powe...
✓	2009/10/19 05:29 PM	2009/10/19 06:29 PM	Weekly	NCL	

Schedule page

- **Create schedule:** Select the **New Schedule** shortcut to have the blank fields or use the data of the selected schedule. Enter all required data and click **Add** to add a new schedule.
- **Modify the schedule:** Select the schedule you wish to modify. After entering the new data, click the **Apply** button to apply the schedule modification.
- **Remove the schedule:** Select the schedule to remove from the schedule list, and click the **Remove** button to complete the schedule deletion.

The schedule detailed settings are explained below:

- **Active:** Choose **Yes** to activate this schedule effective. If **No** is selected, the schedule will be ignored.
- **Bank:** There are two conditions for this option.
  - **Power off the output completely.** When users choose the **All** option, all equipment connected to the outlets labeled both **SURGE** and **BATTERY**, or labeled **CL** will be turned off.  
***Caution:** Surge protected outlets provides surge protection to the equipment but does not provide battery power once a power outage occurs. When utility power fails, computers on the surge outlets will be shut down immediately due to power loss.*
  - **Turn off the NCL outlet.** If the **NCL** option is chosen, users can assign a scheduled shutdown to particular outlets on the UPS with NCL support. If there are two NCL outlets on the UPS, the NCL 1 and NCL 2 outlet can be assigned individual schedules.
- **Frequency:** There are three frequencies that can be assigned **Once**, **Daily** and **Weekly**. **Daily** and **Weekly** schedules will be repeated. If a **Once** schedule has been performed or expired, the schedule will display a gray active icon in the schedule list.

Active	Shutdown Time ▾	Restore Time	Frequency	Bank	Comment
✓	2011/06/14 05:25 PM	2011/06/14 06:25 PM	Once	NCL	
✓	2011/06/15 04:15 AM	2011/06/15 05:15 AM	Daily	All	Force shutdown for power s:
✓	2011/06/16 04:15 AM	2011/06/16 05:15 AM	Weekly	All	Server backup & Maintain
	2011/06/19 02:15 AM	2011/06/19 03:15 AM	Once	NCL	Test Schedule
	2011/06/20 02:15 PM	2011/06/20 03:15 PM	Once	NCL	Test Schedule

A once schedule with a gray active icon indicates it has been performed or expired.

- **Shutdown Time:** Configures when to perform the schedule and when to shut down computers.
- **Restore:** Configures whether to restore the controlled outlet power. If the **Yes** option is selected, the UPS will restore the power or power on the NCL outlet at the time specified in the *Restore Time* option. Otherwise the UPS output will stay powered off.
- **Restore Time:** The time to restore the output or to turn on the NCL outlet. This shutdown time must occur prior to the restore time. The maximum duration between the turn off and turn on must depends on UPS model. *Returned Delay* in the **UPS/Configuration** page will affects Restore Time. If a schedule is set to restore power at 6:00 PM and the *Returned Delay* is set 5 minutes, the schedule will actually restore power at 6:05 PM.
- **Comment:** Sets the user-defined comments for this schedule.

**Note:** If the computer bios is set to boot when power restores, the computer will automatically restart when the power is restored. Consult your motherboard documentation or PC/Server supplier for additional details.

**Note:** An active schedule may have an insufficient duration to support a complete shutdown. If the active schedule has insufficient shutdown duration, the active schedule will be set inactive.

**Note:** The scheduled shutdown is functioned only for Agent with UPS.

## Security

### Login

The **Security/Login** page is used to change the PowerPanel® Business Edition login account information, including user account, password, and the duration of login session.

The screenshot shows the PowerPanel Business Edition interface. The left sidebar has a dark blue background with white text. It includes links for System, UPS, Event Action, Logs, Schedule, Security, Preferences, Help, and Logout. The Security link is currently selected and highlighted in yellow. The main content area has a light blue header bar with the word 'Login' in bold. Below this, there are two sections: 'Account' and 'Session'. The 'Account' section contains fields for 'Current Password' (input field), 'Change Username' (radio button selected), 'New Username' (input field), 'Change Password' (radio button selected), 'New Password' (input field), and 'Confirm Password' (input field). There is also an 'Apply' button. The 'Session' section contains a 'Session Timeout' dropdown menu set to 'Never' and another 'Apply' button. The top right corner of the interface features the CyberPower logo.

Security/Login page

### Account

#### Change Username

- Enter the password in the *Current Password* field.
- Select the *Change Username* option and enter a new username in the *New Username* field. Username must be alphanumeric (0-9, A-Z and a-z).
- Click **Apply** to complete the change.

## Change Password

- Enter the password in the *Current Password* field.
- Select the *Change Password* option and enter a new password in the *New Password* and *Confirm Password* fields.
- Click **Apply** to complete the change.

## **Session**

**Session Timeout** is the option which determines the duration of the session after the login. If the page isn't accessed during this period and remains inactive, users will be logged out automatically. Users will need to login again on the **Login** page.

## **Authentication**

To secure and protect network communication between PowerPanel® Business Edition Agent and Client, or Client and the devices, security settings must be configured in the **Security/Authentication** page.

The Secret Phrase is used for authenticating the network communication between the Agent and Client, or Client and devices such as a PDU or UPS. The SNMP community is used for authenticating network communication between PowerPanel Applications such as Agent and Client, or Client and devices such as PDU or UPS.

**PowerPanel™ Business Edition** Client  
on DVRD60 [192.168.22.53]

**System**  
Summary  
Information

**Power**  
Information  
Configuration

**Event Action**  
Events  
Recipient  
Settings

**Logs**  
Event Logs  
Settings

**Security**  
Login  
▶ Authentication  
Network

**Preferences**  
User Experience

**Help**  
Content  
About

**Logout**

**Authentication**

**Network Communication**

Secret Phrase	powerpanel.encryption.key
SNMP Community	private
SNMP Trap Community	public

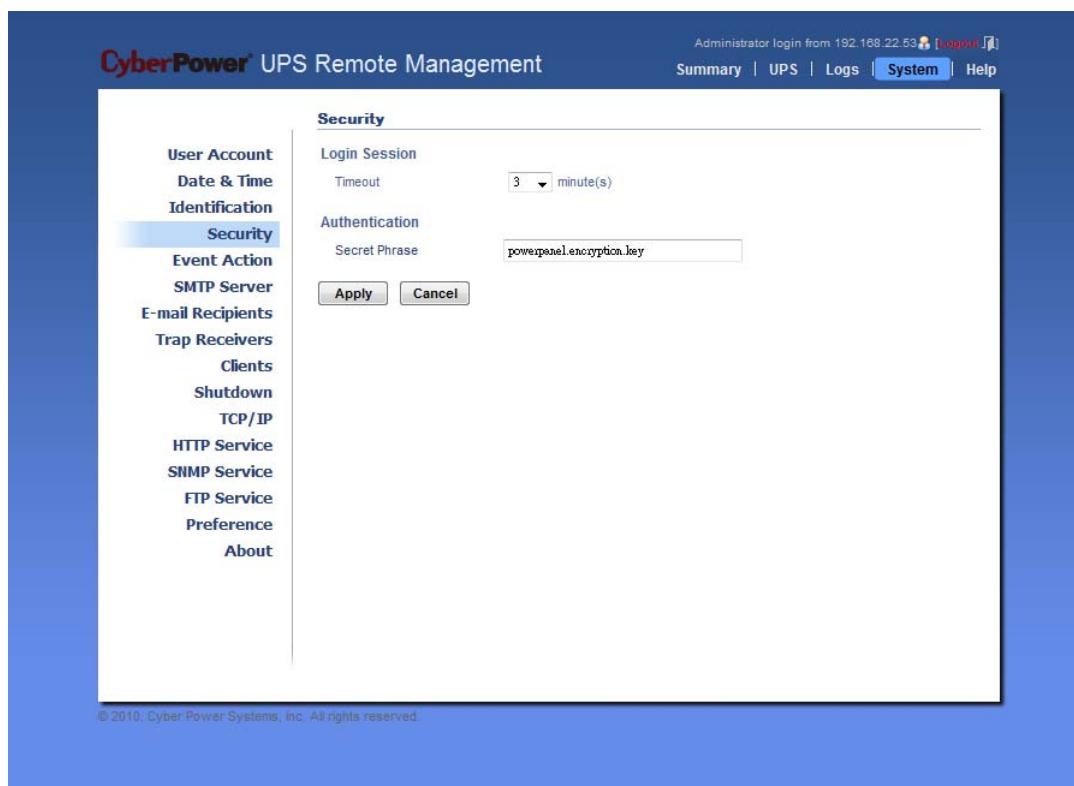
**Apply**

Security/Authentication page in Client

If the Client establishes communication with Agent, UPS RMCARD202 or PDU whose model name is not **PDU20SW8RNET** or **PDU15SW8RNET**, refer to **Secret Phrase** section for further details. If the Client establishes communication with UPS RMCARD201 or PDU whose model name is **PDU20SW8RNET** or **PDU15SW8RNET**, refer to **SNMP Community** and **SNMP Trap Community** sections for further details.

### **Secret Phrase**

The Secret Phrase is used to create secure network communications between PowerPanel® Applications such as Client and Agent, Client and UPS RMCARD202, or Client and PDU (aside from **PDU20SW8RNET** or **PDU15SW8RNET**). The default phrase is **powerpanel.encryption.key**. The Secret Phrase can be configured on the **Security/Authentication** page in the Agent and Client, or on the **System/Security** page in the PDU and UPS RMCARD web. The Secret Phrase which is used in the Client and devices such as PDU and UPS must match.



*Secret Phrase on the System/Security page in the UPS RMCARD202 web*

**Note:** If the firmware version on the RMCARD202 is earlier than 1.1 (excluding 1.1), you should refer to **SNMP Community** and **SNMP Trap Community** sections for the correct configurations.

### **SNMP Community**

The Client uses this community to authenticate communication between the PDU and UPS in order to access their information. The default community is **private**. The community can be configured on the **Network/Access Control** page in the UPS remote management card (RMCARD) web or on the **Network/SNMP Settings** page in the PDU web. By default, the PDU/UPS use **private** as the community with write permission, and **public** with read only permission. The community used by the Client to access the PDU/UPS RMCARD must have a minimum of read permission for basic operation.

Manager IP	Community	Permission
0.0.0	public	Read Only
0.0.0	private	Write/Read

*Network/Access Control page in the UPS RMCARD201 web*

If the community has write permission, the Client can complete some configuration tasks automatically. If the Client cannot complete these tasks due to a permission limitation, the following settings must be configured manually in the UPS RMCARD web or in the PDU web:

- Outlet Off Delay Setting - Specify the necessary time for the Client to shut down the computer on the **Outlet/Outlet Configuration** page in the PDU web.
- Add the IP address of the Client computer to the Trap Receiver list of the UPS RMCARD/PDU on the **Network/Trap Notification** page in the UPS RMCARD web or in the PDU web.

### ***SNMP Trap Community***

The Client uses the community to authenticate the SNMP trap from a secure device. The community default is **public**. The IP address of the Client computer must be added to the Trap Receiver list on the **Network/Trap Notification** page of the UPS RMCARD and the PDU to ensure the community is matched.

Name	Receiver IP	Community Status
1.Test	192.168.20.54 public	Enable

Network/Trap Notification page in the UPS RMCARD201 web

**Note:** The SNMP community is limited to 15 characters in the PDU and UPS RMCARD.

**Note:** If you have firewall software installed, configure the settings to allow access through port 3052 (UDP/TCP), port 53568 (TCP), port 162 (UDP) and port 53566(UDP). The communication between the UPS RMCARD, PDU and PowerPanel Business Edition software as Agent and Client can only be established when those ports are open.

## Network

Data may be eavesdropped upon or falsified due to eavesdroppers or unknown network attacks when using the PowerPanel Business Edition. HTTP is insecure and subject to eavesdroppers or other network attacks which can obtain the sensitive information such as website accounts or passwords. HTTPS provides secure identification and encryption. HTTPS is usually used for sensitive transactions and PowerPanel Business Edition also provides HTTPS connections to access the web remotely.

Network page

PowerPanel Business Edition allows users to change the secure level and port explained below:

- **Secure Level:** Determines which security level to be used to access web interface.
  - **Basic:** Web access is not protected by HTTPS. This indicates that the sensitive information may not be protected on the network.
  - **Sensitive:** Only web access including the sensitive information, such as password or secret phrase, will be protected by HTTPS. The **Login**, **Event Action/Settings**, **Security/Login**, **Security/Authentication** and **Security/Network** pages contain the sensitive information.
  - **Complete:** All web access will be over the HTTPS connections.
- **HTTPS Port:** Determines which port to be used over the HTTPS connections. The default port is 53568.

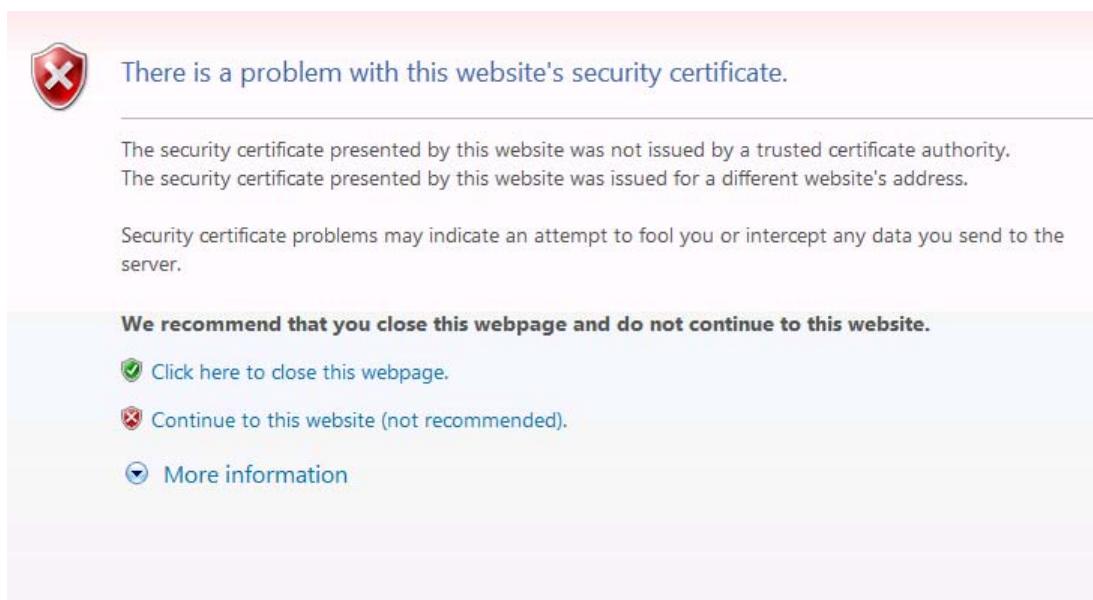
Once the secure level is changed, the new secure level will be taken effect. All pages can't be displayed during the duration to restart server. After the new security has been changed, users will be logged out by Agent and Client automatically. Users must login again on the **Login** page.

When the secure level has been changed from **Basic** to **Sensitive/Complete**, the browser warning will be presented after the new level is taken effect. This indicates users that the security certification is not trusted by the browser. In order to ensure the connection is secure; PowerPanel Business Edition software provides a security certification over the HTTPS connection. This certification may not be trusted by user's browser and may results in warning page.

Users may have to ignore these warning and continue the web access. Below illustration are the warning pages displayed on popular browsers. Follow the steps according to your browser to continue the web access:

### Internet Explorer

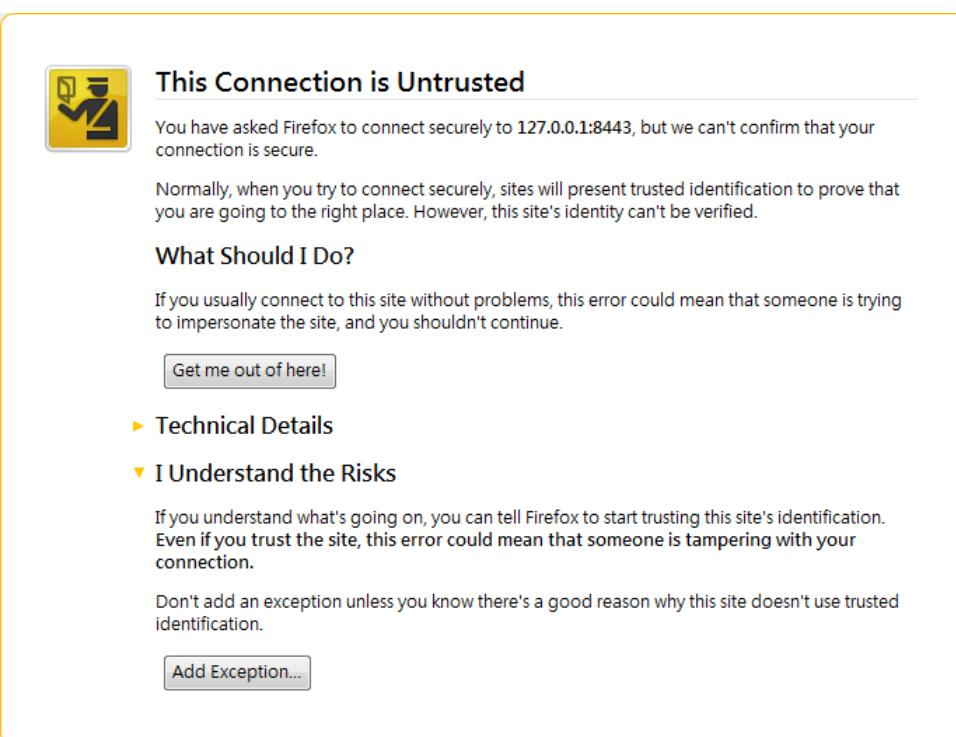
Click **Continue to this website (not recommended)** in order to proceed.



*Internet Explorer displays that the security certification is not trusted.*

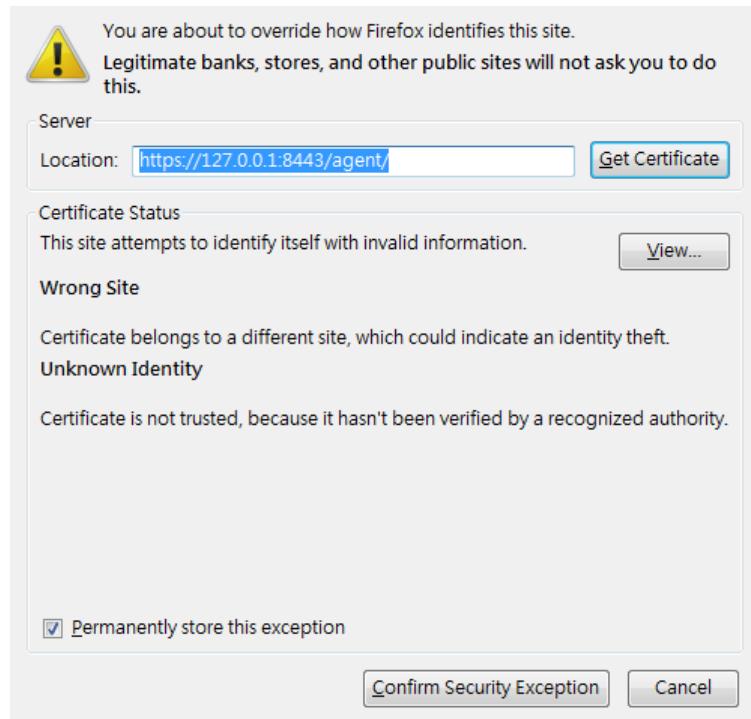
### Mozilla Firefox

At first, click **I Understand the Risks** item to expand the content and click **Add Exception** button to continue the next step.



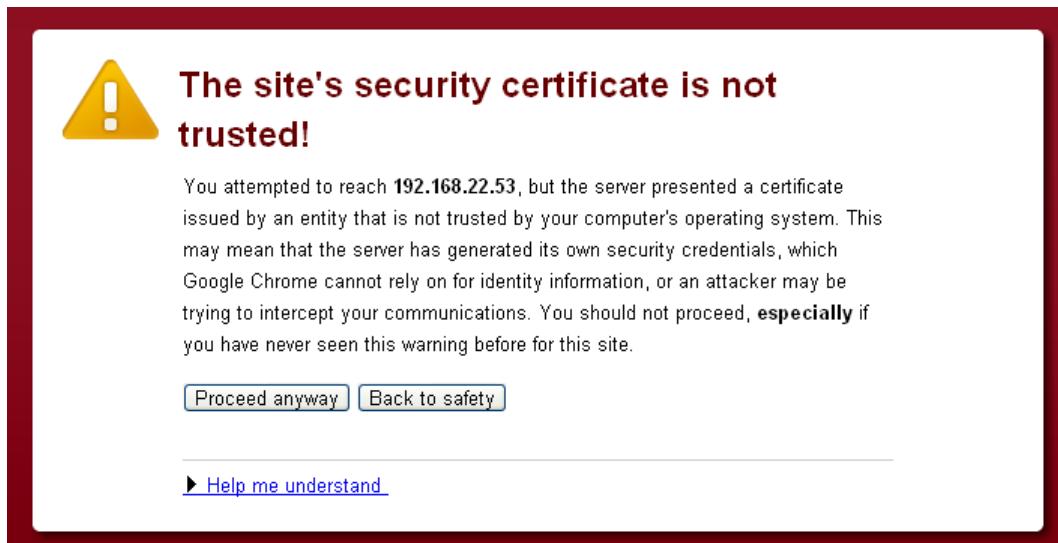
*Firefox displays that the security certification is not trusted.*

Second, select **Permanently store this exception** option and click **Confirm Security Exception** button to continue the web access.



### Google Chrome:

Click **Proceed anyway** button to continue the web access.



*Google Chrome displays that the security certification is not trusted.*

### Safari

Click the **Continue** button to continue the web access.



*Safari displays the security certification alert.*

**Note:** The performance will be lower once accessing to the website over the HTTPS connection.

## Preferences

### User Experience

The **User Experience** page is used to configure common settings for the user's experience. The settings configured here will be used on the **Event Action/Recipient**, **Logs/Event Logs** and **Logs/Status Records** pages.

*Preferences/User Experience page*

- **Working Day:** Sets the days users normally work.
- **Duty Time:** Sets the work hours for users.

## Help

### Content

The **Content** page provides an overview which introduces the brief functions of what Agent, Client and Center to do and indicates how to get related online-help content for current function page. It indicates a button to access to online-help directly.

### About

The **About** page is an overview which includes the PowerPanel Business Edition and host operating system. It also provides resources to contact website for assistances.

## Logout

The **Logout** page allows users to log the user out of the web interface. The user will be asked if they are sure that they want log out, and users can then log out by clicking the **Logout** button.

# Using PowerPanel Business Edition Center

## Management

### Power Equipment

**Power Equipment** page has the following capabilities in Center:

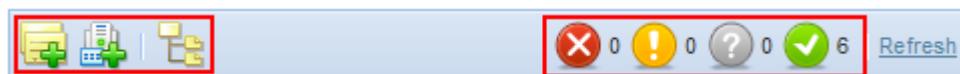
- Monitor status and events from a connected UPS/PDU.
- Issue commands to the UPS/PDUs such as a power off, power cycle or power restore.
- Request that the UPS perform a battery test, sound its alarm or mute the audible alarms.
- Manage equipment and computers which are powered by UPS units and PDUs, and order connected computers to shutdown or a reboot.
- Manage grouped UPS/PDUs.

Group	Device	Status	Voltage	Current	Power
Block A	OR2200LCDRTXL2U	Normal.	107 V 107 V	60 % 50m	0 % 0 W
	#1: OR2200LCDRTXL2U	Normal.			
	#2: ERP-Server	Normal.			
	#3: Network Rounter	Normal.			
	#4: Raser Printer	Normal.			
	#5: Smart Printer	Normal.			
	#6: Fan Cooler	Normal.			
	#7: Not Using				
RMCARD2015	#8: Not Using				
Block B	PDU30SWHVT16FNET	Normal.	219 V 219 V	100 % 2h 15m	0 % 0 W
	PDU30SWT16FNET	Normal.			
Block C	PDU30MT16FNET	Network communication is fail.			

Power Equipment page

### Toolbar

The Toolbar provides information about the status of monitored devices and options to expand, add group or device.



Toolbar of Power Equipment page

These three buttons will allow users to add groups, add devices or expand all groups.

	<b>Add Group.</b> Click this button and the <i>Add Group</i> dialogue box will appear.
	<b>Add Device.</b> Click this button and the <i>Add Device</i> dialogue box will appear.
	<b>Expand All.</b> This button will expand all groups.

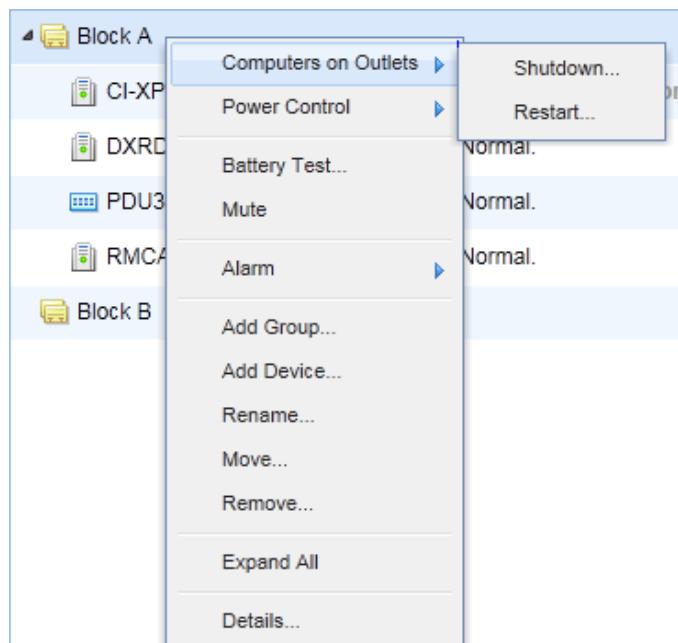
The other four icons indicate the amount of monitored devices that have had severe-level or warning-level events occur, the number of devices that have lost communication with Center and the number of devices that are normal..

	Indicates severe-level power events such as <i>Runtime is insufficient</i> .
	Indicates warning-level power events such as <i>Utility power failure</i> .
	Indicates the devices which have lost communication with Center. Center cannot monitor or control computers and equipment when communication is lost.
	Indicates that there are no problems with these devices.

## ***Node Components***

Each node has a name and an icon indicating what type it is. A UPS/PDU node provides detailed information about what power events have occurred and what the current status is.

A context menu for each node is available by clicking “▼” icon. This allows users to view detailed information such as *Summary* or *Status*, and request operations such as *Shutdown* or *Restart*. A menu item becomes disabled when this operation is in progress or is not supported.



*A context menu appears by accessing a device node.*

Each node can be one of the following types:

	A <b>UPS</b> . This UPS may have an RMCARD or is connected to a computer which is controlled by Agent.
	A <b>PDU</b> .
	<b>IT Equipment</b> . A computer which has Agent installed.
	<b>IT Equipment</b> . A computer which has Client installed.
	<b>IT Equipment</b> . Equipment which may be a computer or powered equipment.
	<b>A Group</b> .
	Indicates that this outlet is not being used by any IT equipment.

Each node also has a column that indicates what the current state is and what power events have occurred.

The column in a **UPS** node displays power events such as *Utility power failure* or *Runtime is insufficient* event while the column in a **PDU** node displays power events such as *Input is low load* or *Input is overload*.

The UPS/PDU nodes display a brief operating status consisting of schedules, utility power, batteries, support load and outlets. The brief status column displays in gray when local or network communication has failed.

A UPS can have the following states:

	<b>Normal</b> . The UPS is working normally.
	<b>Power Failure</b> . There is no utility power supplied to UPS.
	<b>Bypass</b> . The UPS has switched to bypass mode and is supplying direct utility power.
	<b>Boost</b> . The utility voltage is below the regular voltage and UPS is increasing the utility voltage.
	<b>Buck</b> . The utility voltage is beyond the regular voltage and UPS is decreasing the utility voltage.
	<b>Test</b> . A battery test is processing.

Batteries can have the following states when UPS is operating:

	<b>Normal</b> . Batteries are not being used.
	<b>Not Present</b> . Batteries are absent and there is no battery power.
	<b>Charging</b> . Batteries stops discharging due to a power event and are being charged.
	<b>Discharging</b> . The UPS is supplying battery power to its load.
	<b>Fully Charged</b> . Batteries are at 100% capacity.

UPS/PDUs have the following states according to their current load:

	<b>No Load</b> . There is no output load.
	<b>Low Load</b> . The PDU is in a low load condition.
	<b>Normal</b> . The output power is normal.
	<b>Near Overload</b> . The PDU is near the overload condition.
	<b>Overload</b> . Output consumption of equipments exceeds the rating load on UPS or the PDU is in an overload condition.

PDU also have a state to indicate whether outlet is turned on or off:

	Indicates this outlet is turned on.
	Indicates this outlet is turned off.

## Device Management

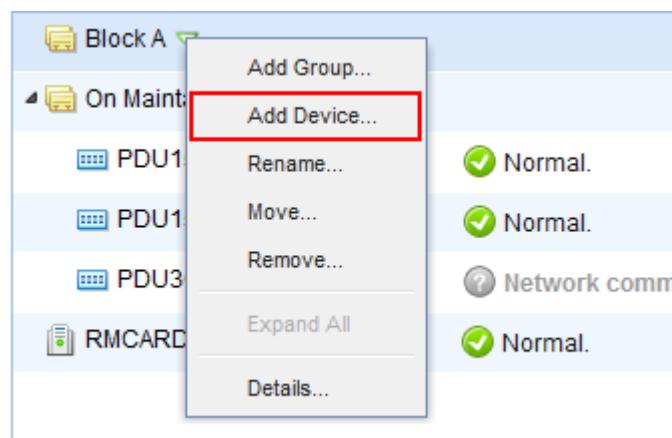
### Add Device

In order to monitor and control UPS/PDU it first must be added to the Center by clicking **Add Device** button on the toolbar.



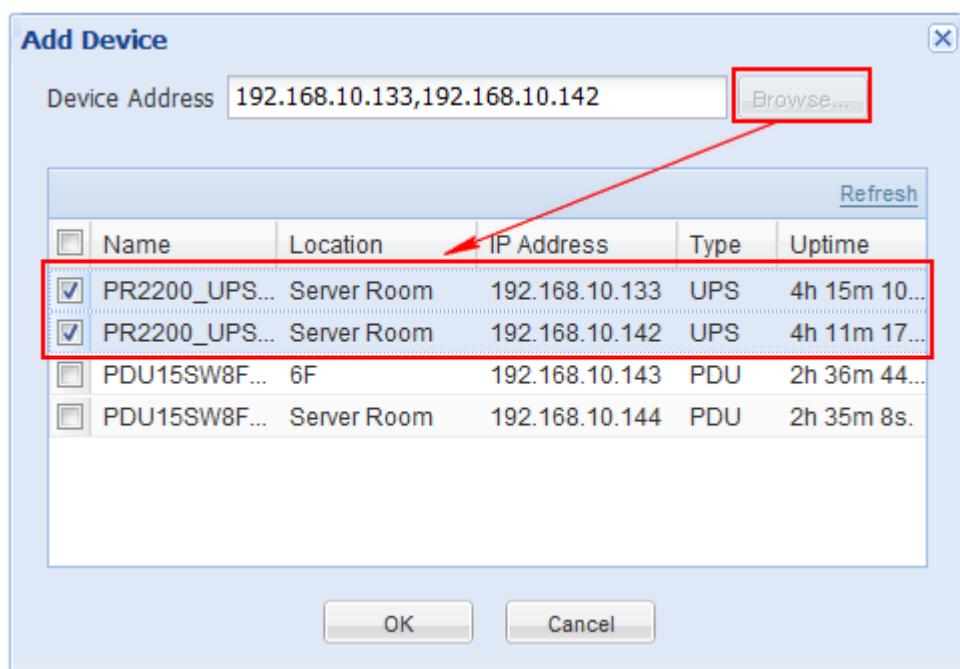
Add Device button on toolbar

Or it can be added directly to a group by selecting the **Add Device** item in the context menu for the selected group.



Add Device item in the context menu of target group

Enter the comma-separated IP addresses in the Device Address field or select the IP addresses by clicking **Browse**. The **OK** button will attempt to establish communication with the device at the specified IP address.



Select IP address by clicking Browse button

*Note:* Center can simultaneously monitor a maximum of 25 UPS/PDU.

### **Move Device**

Highlight the device you wish to move and select **Move** in the context menu. A **Move** window will display and select the target group from the list. After selecting the target group, click **OK** to move the group.

### **Remove Device**

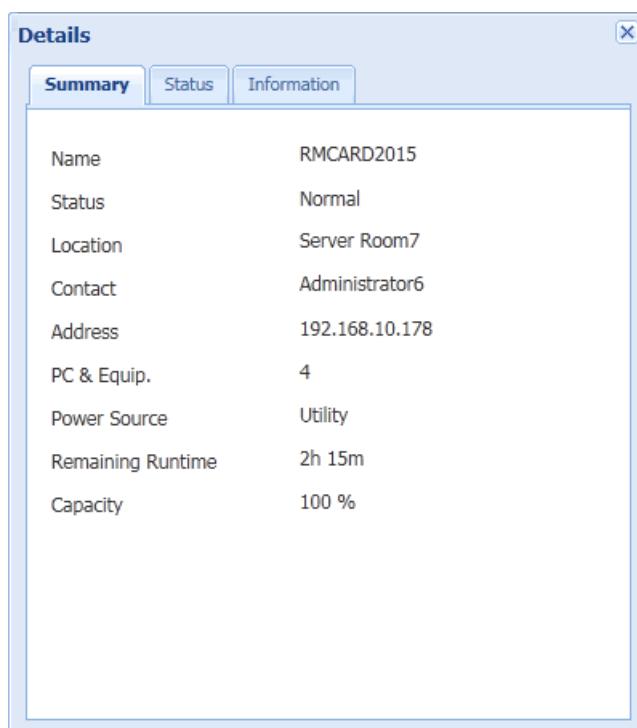
Highlight the device to remove or click **Remove** in the context menu. Click **OK** to remove the device. When a device is removed, its powered computers and equipments will also be removed.

### **Rename Device**

Highlight the device node you wish to rename and select **Rename** in the context menu. The **Rename Device** window will display. After entering the new device name, click **OK** to apply the modification.

### **Device Details**

Each UPS/PDU provides further information from **Details** in the context menu. This includes summary, status, and information. When local communication or network communication is lost, only the *Summary* tab can be accessed.



*Details of UPS RMCARD*

### **Summary**

The **Summary** tab provides an overview of the system information:

- **Name:** The name of the selected group, UPS/PDU.
- **Status:** Displays the present status of the selected UPS/PDU.
- **Location:** Where the UPS/PDU is located.
- **Contact:** Who to contact about the UPS/PDU.

- **Address:** The IP address of the UPS RMCARD, PDU or Agent computer's network interface.
- **PC & Equip:** The number of the powered computers and equipment.
- **Outlets:** The amount of outlets on the UPS/PDU.
- **Outlet On:** The outlets which are supplying power.
- **Outlet Off:** The outlets which are not supplying power.
- **Power Source:** The power source of the UPS, e.g. *Utility* or *Battery*.
- **Remaining Runtime:** The estimated amount of time remaining that the UPS can supply power, given its current load.
- **Capacity:** The capacity of the batteries expressed as a percentage of full charge.
- **Statistics:** Indicates the state of the device as *Normal*, *Severe*, *Warning* or *Untouched*.
  - **Severe:** Devices with severe-level events such as *Overheat* or *Output is off*.
  - **Warning:** Devices with warning-level events such as *Utility power failure* or *Battery need replacement*.
  - **Untouched:** Devices which have lost communication with Center.
- **Type:** The type of software the selected device is running, e.g. *Agent*, *Client* or *Equipment*.

### **Status**

The **Status** tab displays details about the UPS/PDU.

- **Current:** The output current in Amps.
- **Outlets:** The status of each outlet on the UPS/PDU and the name of the connected computer or equipment.
- **Input:** Displays the status of the utility power supplied to the UPS.
- **Voltage:** The voltage of the utility power supplied to the UPS.
- **Frequency:** The frequency of the utility power supplied to the UPS in Hertz.
- **Output:** Displays the status of the output power that is being supplied to connected equipment.
- **Load Consumption:** The power draw of the connected equipment expressed as a percentage of the total load capacity. This displays as watts on some UPS models.
- **Battery:** Displays the status of the battery packs.
- **Capacity:** The capacity of the batteries, expressed as a percentage of full charge.
- **Remaining Runtime:** The estimated amount of time that the UPS can supply power to its load.
- **System:** Displays the operating status of the UPS.

### **Information**

**Information** tab shows information about the PDU or UPS.

- **Model Name:** The model name of the UPS/PDU.
- **Firmware Version:** The firmware version of the UPS/PDU.
- **MAC address:** The MAC address of the UPS RMCARD, PDU or Agent computer's network interface.
- **Serial Number:** The serial number of the UPS. *Note: This will give the internal serial number on some models.*

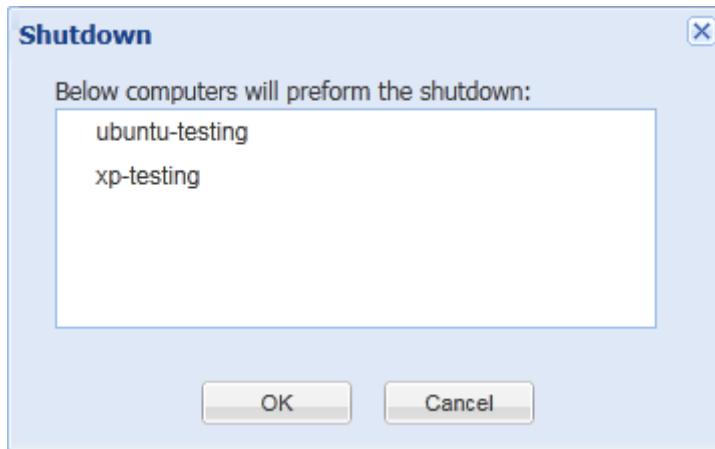
- **UPS Type:** The type of the UPS. e.g. *On-Line*, *Line Interactive* or *Sinewave Line Interactive*.
- **PDU Type:** The type of the PDU. e.g. *Monitored* or *Switched*.
- **Power Rating:** The Volt-Amp rating (VA) and power rating (Watts) of the UPS.
- **Voltage Rating:** The output voltage rating (Volts) of the UPS.
- **Frequency Rating:** The output frequency rating (Hz) of the UPS.
- **Battery Replacement Date:** The date that the batteries were last replaced. This should be set at the time of battery replacement. If this date has not been set, it is recommended that this date should be set immediately.
- **External Batteries:** The amount of external battery packs connected to the UPS.
- **Outlets:** The amount of outlets on the PDU.

## ***Device Operations***

Center provides management functions for a UPS/PDU.

### **Computers on Outlets**

- **Shutdown/Restart:** A shutdown or restart can be initiated on a computer with either Agent or Client installed by going to **Shutdown/Restart** in *Computers on Outlets*. A window will list the computers which can be shutdown or restarted. Clicking “X” will remove that computer from the list and they will not be shutdown/restart.

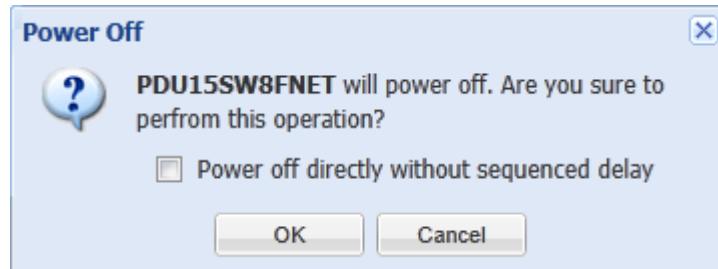


*A confirmation window lists computers able to be shutdown*

### **Power Control**

- **Power Off:** Click **Power Off** and a confirmation window will appear. Decide whether to perform an immediate or a sequenced power off then click **OK** to begin. When a UPS or a PDU initiates a sequenced power off, computers connected to the UPS/PDU that have Agent or Client installed will initiate shutdown prior to the sequenced power off.

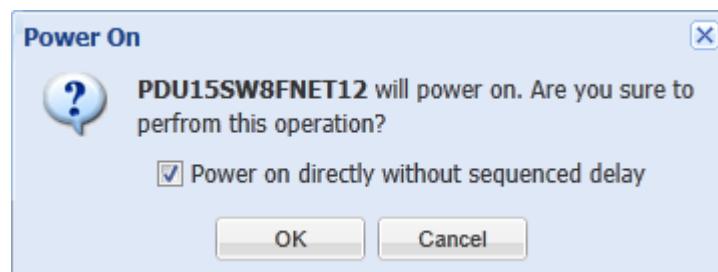
**Note:** An immediate power off will likely result in connected computers losing power.



A confirmation window of a PDU power off operation

- **Power On:** Click **Power On** to have the UPS/PDU turn on output power. Decide whether to turn on output power immediately or after a delay in the confirmation window. Click **OK** to begin.

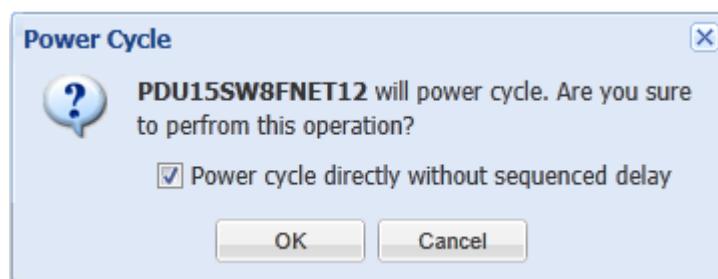
**Note:** Some computers require manual booting when a UPS or a PDU powers on. To change this, set the computers BIOS to boot when power is restored.



A confirmation window of a PDU power on operation

- **Power Cycle:** Initiates a **Power Cycle** on the UPS/PDU. This will turn the UPS/PDU off then back on or vice versa. Decide whether to initiate an immediate or a sequenced power cycle and click **OK** to begin. A sequenced power cycle will cause computers connected to the UPS/PDU that have Agent or Client installed to shut down prior to the power cycle.

**Note:** An immediate power cycle off will likely result in connected computers losing power.



A confirmation window of a PDU power cycle operation

### **Battery Test**

Click **Battery Test** from the context menu and the UPS will initiate a battery test.

### **Mute**

Click **Mute** from the context menu to mute the alarm.

### **Alarm**

Click **Alarm** from the context menu to enable or disable the UPS alarm.

## **Group Management**

UPS/PDUs can be grouped for easy management. Orders can then be issued to multiple devices in a group.

### **Add Group**

Click **Add Group** on the toolbar to create a new group.



*Add Group button on toolbar*

You can also add sub-groups in the context menu of a selected group. Enter the new group name and click **OK** button to add a new group.

### **Move Group**

Select the group you wish to move and select **Move** in the context menu. Select the target group from the list in the **Move Group** window. After selecting the target group, click **OK** to move the group.

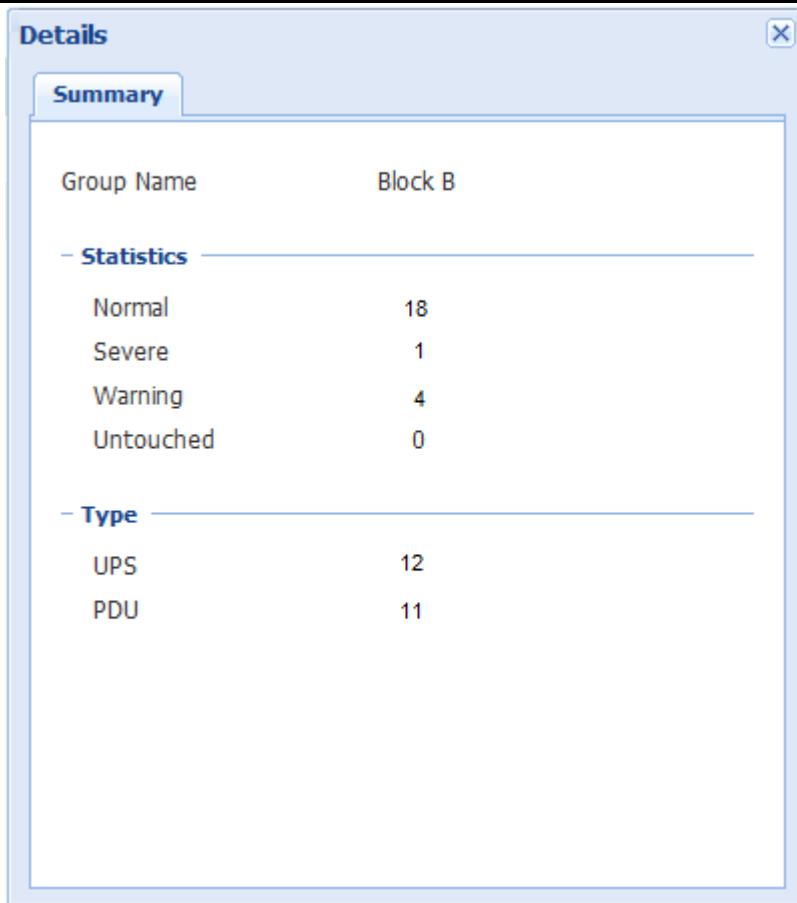
### **Remove Group**

Choose a group and select **Remove** from the context menu. The **Remove** window will open; click **OK** to remove this group. Removing a group will not remove the sub-groups or the UPS/PDUs belonging to this group. These items will be moved to the main group.

### **Rename Group**

Choose group and select **Rename** from the context menu. The **Rename Group** window will appear and requires new group name to replace origin one. Enter the new group name and click. When a group has been deleted, the sub-groups and devices will be moved to main group. Note that a duplicate group name is not allowed.

### **Group Details**



*Summary tab of Details*

Each group provides the statistics of all UPS/PDU from the **Summary** tab of **Details** and includes the following summary information:

- **Group Name:** A name of the selected group.
- **Statistics:** Indicates statistics about the operating conditions of the UPS/PDU:
  - **Normal:** Indicates a UPS/PDU which is normal.
  - **Severe:** Indicates a UPS/PDU with severe-level power events such as *Runtime is insufficient*.
  - **Warning:** Indicates a UPS/PDU with warning-level power events such as *Utility power failure*.
  - **Untouched:** Indicates a UPS/PDU which has lost communication with Center.
- **Type:** Indicates the statistics of UPS/PDU.

### ***Group Operations***

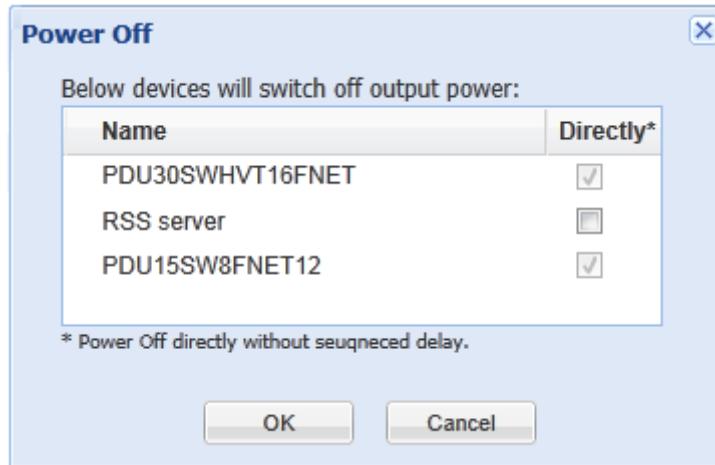
Some or all devices in a group can have the following commands issued to them:

#### **Computers on Outlets**

- **Shutdown/Restart:** Select **Shutdown** or **Restart** from the context menu of the selected group and a pop-up window will appear. Pick the computers to shutdown or restart and click “X” on those you wish to remove from the list. Click **OK** to initiate the shutdown or restart.

#### **Power Control**

- **Power Off:** Click **Power Off** and a confirmation window will appear. Pick the UPS/PDU from the list and decide whether to perform an immediate or a sequenced power off. Click **OK** to begin. When the UPS/PDU initiates a sequenced power off, computers with Agent or Client installed will initiate a shutdown prior to the sequenced power off. An immediate power off will likely cause those lose power.



A confirmation window of a bulk power off operation

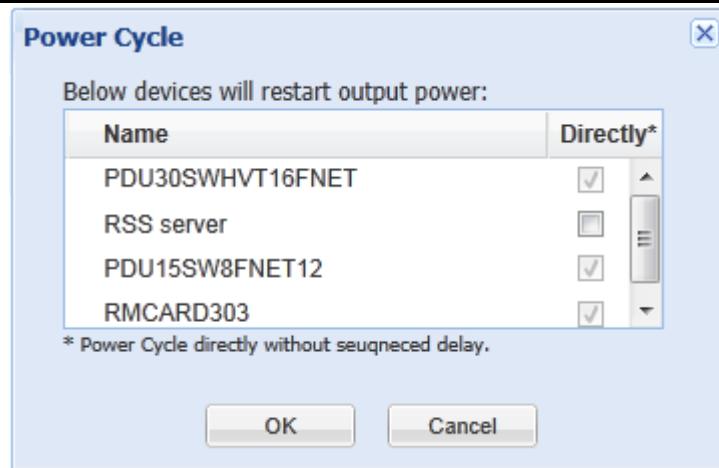
- **Power On:** Click **Power On** and a popup window appear. Pick the UPS/PDU from the list and determine whether to perform an immediate or a sequenced power on. Click **OK** to begin.

**Note:** Some computers require manual booting when a UPS or a PDU powers on. To change this, set the computers BIOS to boot when power is restored.



A confirmation window of a bulk power on operation

- **Power Cycle:** Click **Power Cycle** and a popup window appear. Pick the UPS/PDU from the list and determine whether to perform an immediate or a sequenced power cycle. Click **OK** to begin.



A confirmation window of a bulk power cycle operation

### **Battery Test**

Only UPS units can perform a battery test. Click **Battery Test** from the context menu of the selected group. All UPS units in that group will be listed in the confirmation window. Click **OK** to initiate the battery test on all selected UPS units.

### **Mute**

Click **Mute** from the context menu to mute the alarm.

### **Alarm**

Click **Alarm** from the context menu to enable or disable the UPS alarm.

### **IT Equipment Details**

IT equipment is computers which have PowerPanel Agent or Client installed, or generic equipment that has power supplied by a UPS/PDU. Center provides the following options to attach new equipment to an outlet, attach existing equipment from another outlet or another device, detach unused equipment and rename equipment

#### **Attach New Computer**

When a new computer running Agent or Client is plugged into a UPS/PDU, it should be assigned to the correct outlet. Example: A computer running Client connects to outlet #1 on a PDU. The Client should be assigned to an outlet by the following steps:

- Select **Show Outlets** item from the context menu of the PDU to expand all outlets.
- Select the **Settings** tab in the *Details* window from the context menu of the correct outlet.
- Click the *Enabled* option and *Installed PPBE Client* then enter the Client's IP address. Click **OK** to attempt to establish communication. After the process is successful the *Name*, *Location*, and *Contact* will be updated.

#### **Attach New Generic Equipment**

Example: New generic equipment such as a *printer* or *LCD monitor* has been connected to UPS outlet #2, use the following steps to attach this new generic equipment:

- Select **Show Outlets** from the context menu of the UPS to expand all outlets.
- Select the **Settings** tab of the *Details* window from the context menu of the correct outlet.
- Click the *Enable* option and fill in the *Name*, *Location* and *Contact* fields. Click **OK** to attach the generic equipment.

### **Move the Equipment**

If you reconnect existing equipment to another outlet or another device, you should assign the equipment to the correct outlet with the following steps:

- Select **Move** from the context menu of this equipment.
- Choose the correct outlet and target device in the **Move** window.
- Click **OK** to complete the operation.

**Note:** A computer running Agent is only allowed to move to outlets on a single UPS. In order for Agent to have sufficient time to complete a shutdown, an Agent cannot be moved to NCL outlets.

### **Detach the Equipment**

When you unplug equipment from the UPS/PDU, this equipment should be detached. Uncheck the *Installed PPBE Client* option and click **OK** to finish.

### **Modify the Equipment**

You can modify the *Name*, *Location* and *Contact* fields of equipment. Enter the new data and click **OK**.

If the *Installed PPBE Client* option is enabled, this indicates the generic equipment will be changed to a computer which has PowerPanel installed. Refer to [Attach New Generic Equipment](#) for further details. If the *Installed PPBE Client* option is disabled, this indicates that a computer has uninstalled PowerPanel and will become generic equipment.

If one computer which has PowerPanel installed replaces another existing one on the same outlet, change the *Address* field and Center will attempt to establish communication with the new computer.

### **Rename the Equipment**

Select the **Rename** item from the context menu and a rename window will appear. Click **OK** to rename the equipment. User can also rename the equipment by modifying the *Name* field in the **Settings** tab of the **Details** window.

## ***IT Equipment Details***

### **Summary**

The **Summary** tab provides the operating status of the UPS/PDU and which outlet it is plugged into.

- **Name:** The name of the UPS/PDU.
- **Status:** The operating status of the UPS/PDU.
- **Outlet:** Indicates the outlet number of this current equipment. It also indicates whether the outlet type is *NCL*, *Battery* or *CL*.

## **Settings**

The **Settings** tab allows you to configure powered equipment.

- **Enabled:** If this option is checked, this indicates that this outlet is being used by the computer or the equipment you assign.
- **Installed PPBE Client:** Determines whether the item is generic equipment or a computer which has Agent or Client installed.
- **IP Address:** The IP address of the Agent computer, Client computer or the equipment on this outlet. When the *Installed PPBE Client* option is checked, the Client IP address is necessary to search for the Client computer.
- **Name:** The name of the computer or equipment.
- **Location:** Where the computer or equipment is.
- **Contact:** Who to contact about this computer or equipment.

## ***IT Equipment Operations***

### **Shutdown/Restart**

Select **Shutdown** or **Restart** from the context menu and a confirmation window will appear. Click **OK** to initiate the shutdown or restart. This is only valid for a computer with Agent or Client installed.

### **Power Control**

- **Power Off:** Select **Power Off** from the context menu. Decide whether to turn off the outlet immediately or in sequence. Click **OK** to begin. A computer which has Agent or Client installed will initiate a graceful shutdown prior to turning off the outlet.  
On specified modes, turning off or restarting one outlet of the bank will also turn off other outlets of this bank. This may cause other computers on this bank to be shut down unexpectedly.
- **Power On:** Select **Power On** from the context menu. Decide whether to turn on the outlet immediately or in sequence. Click **OK** to turn on the outlet.
- **Power Cycle:** Select **Power Cycle** from the context menu. Decide whether to restart the outlet. Click **OK** to restart the outlet. A computer which has Agent or Client installed will also initiate a shutdown prior to the power cycling.  
Turning off the outlet of a bank or restarting the outlet of the bank will also cause other computers on other outlets to be shut down.

### **Locate**

Select **Locate** from the context menu. The computer uses speakers to generate the audible sounds.

## ***IT Equipment***

- Monitor the status of computers and equipment connected to the UPS/PDU.
- Issue orders such as shutdown or restart when the connected outlet is being turned off or turned on.
- Request computers perform a shutdown or a reboot.
- Manage computers and equipment in a group, and issue orders to grouped computers or equipment.

IT Equipment page

## Toolbar

The Toolbar provides device states and buttons to expand, add group or device.



Toolbar of the IT Equipment page

	<b>Add Group.</b> Click this button and <i>Add Group</i> will appear.
	<b>Add Computer/Equipment.</b> Click this button and the <i>Add Computer/Equipment</i> window will appear.
	<b>Expand All.</b> All computers and equipment will be visible by clicking this button.

The Toolbar also displays the amount of times monitored devices have had severe-level or warning-level events occur, which devices have lost communication with Center and which devices are normal.

	Indicates severe-level power events such as <i>Runtime is insufficient</i> .
	Indicates warning-level power events such as <i>Utility power failure</i> .
	Indicates the devices which have lost communication with Center. Center cannot monitor or control computers and equipment when communication is lost.

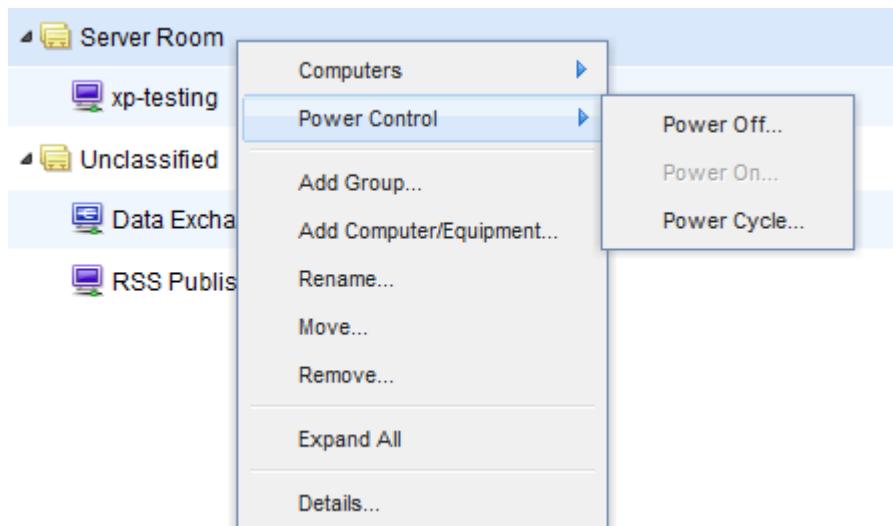


Indicates that there are no problems with this device.

## ***Node Components***

Each node is named and indicates what type it is. A computer or generic node provides more information.

A context menu for each node can be accessed by clicking “” icon. This allows you to view detailed information such as *Summary* and request operations such as *Shutdown* or *Restart*. A menu item becomes disabled when this operation is in progress or is not supported.



*A context menu appears by accessing a computer node.*

Each node can be one of the following types:

	<b>Computer.</b> A computer which has Agent installed and is supplied power by the UPS.
	<b>Computer.</b> A computer which has Client installed.
	<b>Generic Equipment.</b> Equipment which may be a computer or powered equipment.
	<b>A Group.</b>

A node also provides a column to indicate what the current state is and what power events have occurred. A UPS node column can display power events such as *Utility power failure* or *Runtime is insufficient*, and a PDU node column can display power events such as *Input is low load* or *Input is overload*.

Each node provides a column to describe what the current status is and what operation is processing. A computer node displays whether it is going to be shutdown and a generic equipment node displays whether it is going to be powered off in event of the device it is plugged into turning off.

## ***Group Management***

Multiple computers and generic equipment can be managed by grouping them. All computers and generic equipment can be added to a group and moved between groups.

### **Add Group**

Users can click **Add Group** on the toolbar to create a new group.



Add Group button on toolbar

Or click the **Add Group** item to create a new sub-group from the context menu of a selected group. Enter the new group name and click **OK** to add a new group. You may have sub-groups but a duplicate name is not allowed.

### **Move Group**

Select the group you wish to move and select **Move** in the context menu. The **Move Group** window will display; select the target group from the list. After selecting the target group, click **OK** to move the group.

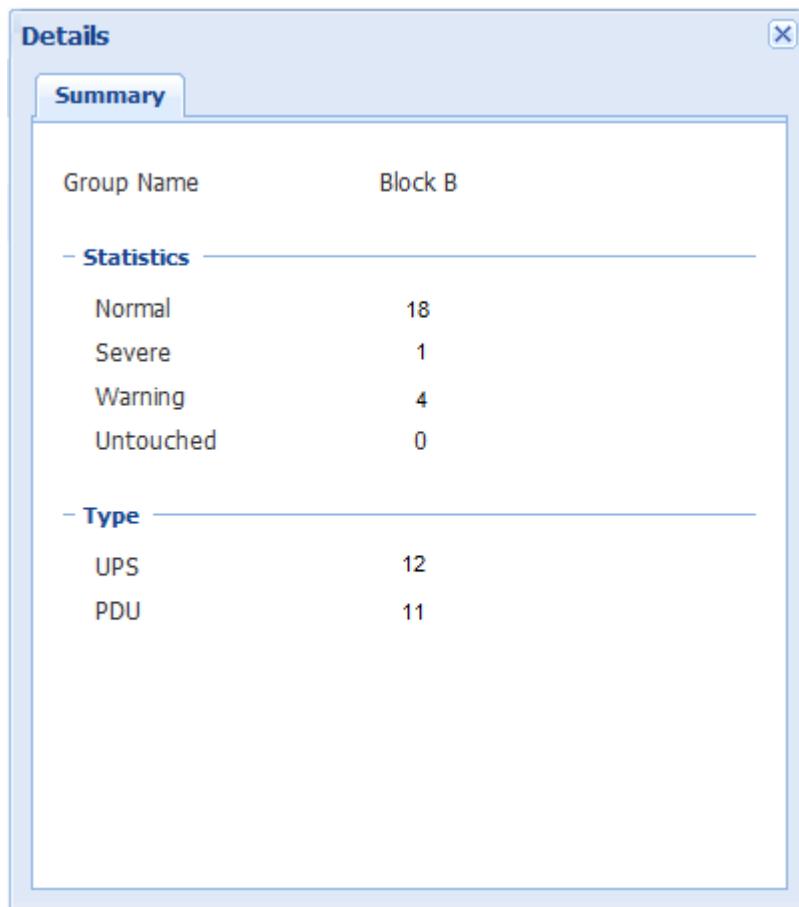
### **Remove Group**

Select a target group and select **Remove** from the context menu. A pop-up window will open. Click **OK** to remove this group. Removing a group will not remove sub-groups groups or computers and equipment belonging to this group. These items will be moved to the main group.

### **Rename Group**

Choose a group and select **Rename** from the context menu. A **Rename Group** window will appear and requires new group name to replace origin one. Enter the new group name and click **OK**. Note that a duplicate group name is not allowed.

### **Group Details**



Summary tab of Details

Each group provides information about the communication state or the computer type from the **Summary** tab of **Details**:

- **Group Name:** The name of the selected group.
- **Statistics:** Indicates statistics about the operating conditions of the UPS/PDU:
  - **Normal:** Indicates computers and equipment being monitored by Center.
  - **Untouched:** Indicates computers and equipment which have lost communication with Center.
- **Type:** Indicates computers that have Agent or Client installed, or other equipment which are only being supplied power.

### ***Group Operations***

#### **Computers**

**Shutdown/Restart:** Select **Shutdown** or **Restart** from the context menu of the selected group and a pop-up window will appear. Pick the computers to shutdown or restart and click “X” prevent a computer to shutdown or restart at this operation. Click **OK** to begin.

#### **Power Control**

- **Power Off:** Click **Power Off** in *Power Control* from the context menu and a pop-up window will appear. Click “X” to exclude a computer or equipment and decide whether to do this operation immediately or in sequence. Click **OK** to turn off output power. On specific UPS models, turning off one outlet of a bank indicates turning off the whole outlets of this bank. An immediate power off operation will result in data loss or system crash on computers due to an unexpected shutdown.
- **Power On:** Click **Power On** from *Power Control* in the context menu and a pop-up window will appear. Click “X” to exclude a computer or equipment and decide whether to do this operation immediately or in sequence. Click **OK** to turn on output power.
- **Power Cycle:** Click **Power Cycle** in *Power Control* from the context menu and a pop-up window will appear. Click “X” to exclude a computer or equipment and decide whether to do this operation immediately or in sequence. Click **OK** to start the power cycle. A power cycle operation may cause other computers to be shutdown on this bank.

### ***IT Equipment Management***

IT equipment can be a computer which has Agent or Client installed, or generic equipment which is only being provided power. Only computers and equipment whose power devices are monitored by Center have the following options:

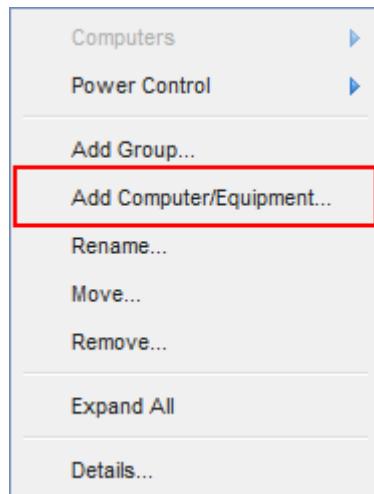
#### **Add Computer/Equipment**

Click **Add Computer/Equipment** button on the toolbar to display the **Add Computer/Equipment** window.



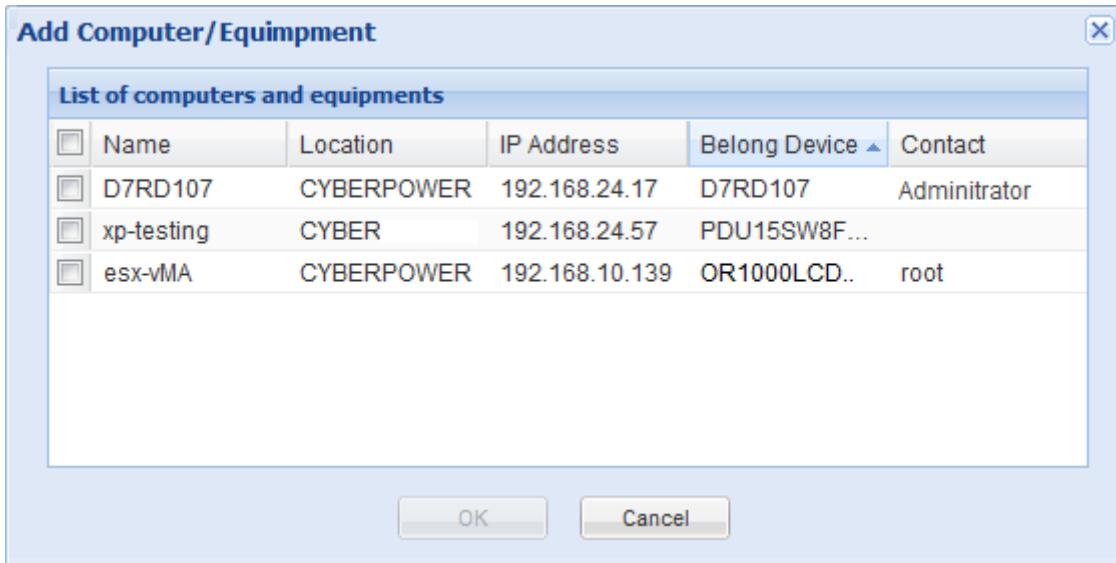
*Add Computer/Equipment button on toolbar*

Select the **Add Computer/Equipment** item from the context menu of any group to display the **Add Computer/Equipment** window.



Add Computer/Equipment item on the context menu

Select the computers or equipment you wish to add and click **OK**.



Add Computer/Equipment window

### **Move IT Equipment**

Select **Move** from the context menu. A pop-up window will appear and you will have to assign a target group. Click **OK** to move to the target group.

### **Rename IT Equipment**

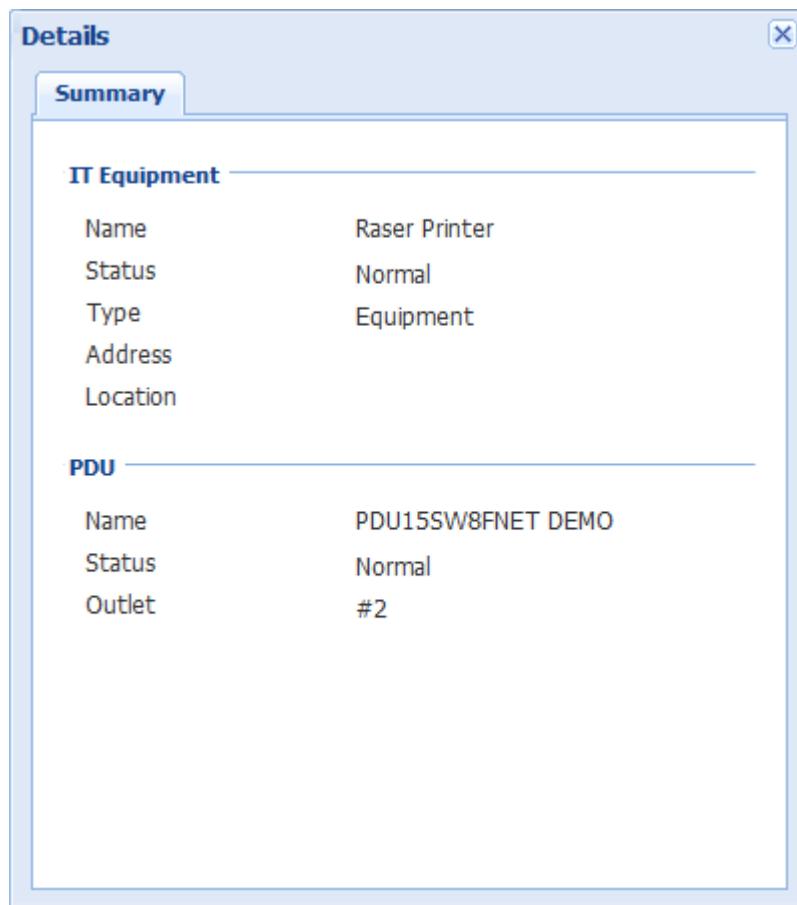
Select **Rename** in the context menu. A pop-up window will appear and you must enter a new group name to replace the original one. Click **OK** to apply.

### **Remove IT Equipment**

Select **Remove** in the context menu. A pop-up window will appear. Click **OK** to delete the selected item.

**Note:** If a computer/equipment is detached from the UPS/PDU on the **Power Equipment** page, this computer/equipment will be also removed from the **IT Equipment** page. If a computer/equipment is removed from the **IT Equipment** page, this computer/equipment will remain on the **Power Equipment** page.

## IT Equipment Details



Summary tab of Details window of printer

### IT Equipment

- **Name:** The name of this computer or equipment.
- **Status:** The operating status of this computer or equipment.
- **Type:** Which type this computer or equipment is. Either *Agent* or *Client* depending on which the computer has installed. *Equipment* if it is generic equipment such as fan cooler.
- **Address:** Indicates the address of this computer or equipment.
- **Location:** Indicates where this computer or equipment is located.

### UPS/PDU

- **Name:** The name of this UPS/PDU which supplies power to this computer or equipment.
- **Status:** The operating status of this UPS/PDU.
- **Outlet:** Indicates the current outlet which supplies power to this computer or equipment.

### ***IT Equipment Operations***

Users can order all computers and equipments to do the following:

#### **Shutdown/Restart**

Select **Shutdown** or **Restart** item from the context menu and the confirmation window will appear. Click **OK** to initiate the shutdown or restart. This is only available for a computer with Agent or Client installed.

**Power Control**

- **Power Off:** Select **Power Off** from the context menu. Decide whether to turn off the outlet immediately or in sequence. Click **OK** to turn off the outlets. A computer which has Agent or Client installed will initiate a graceful shutdown prior to turning off the outlet.  
On specified modes, turning off or restarting one outlet of the bank will also turn off other outlets of this bank. This may cause other computers on this bank to be shut down unexpectedly.
- **Power On:** Select **Power On** from the context menu. Decide whether to turn on the outlet immediately or in sequence. Click **OK** to turn on the outlet.
- **Power Cycle:** Select **Power Cycle** item from the context menu. Determine whether to restart the outlet. Click **OK** to proceed. A computer which has Agent or Client installed will also initiate a shutdown prior to restarting outlet.  
Turning off the outlet of a bank, restarting the outlet of the bank will also cause other computers on other outlets to be shut down.

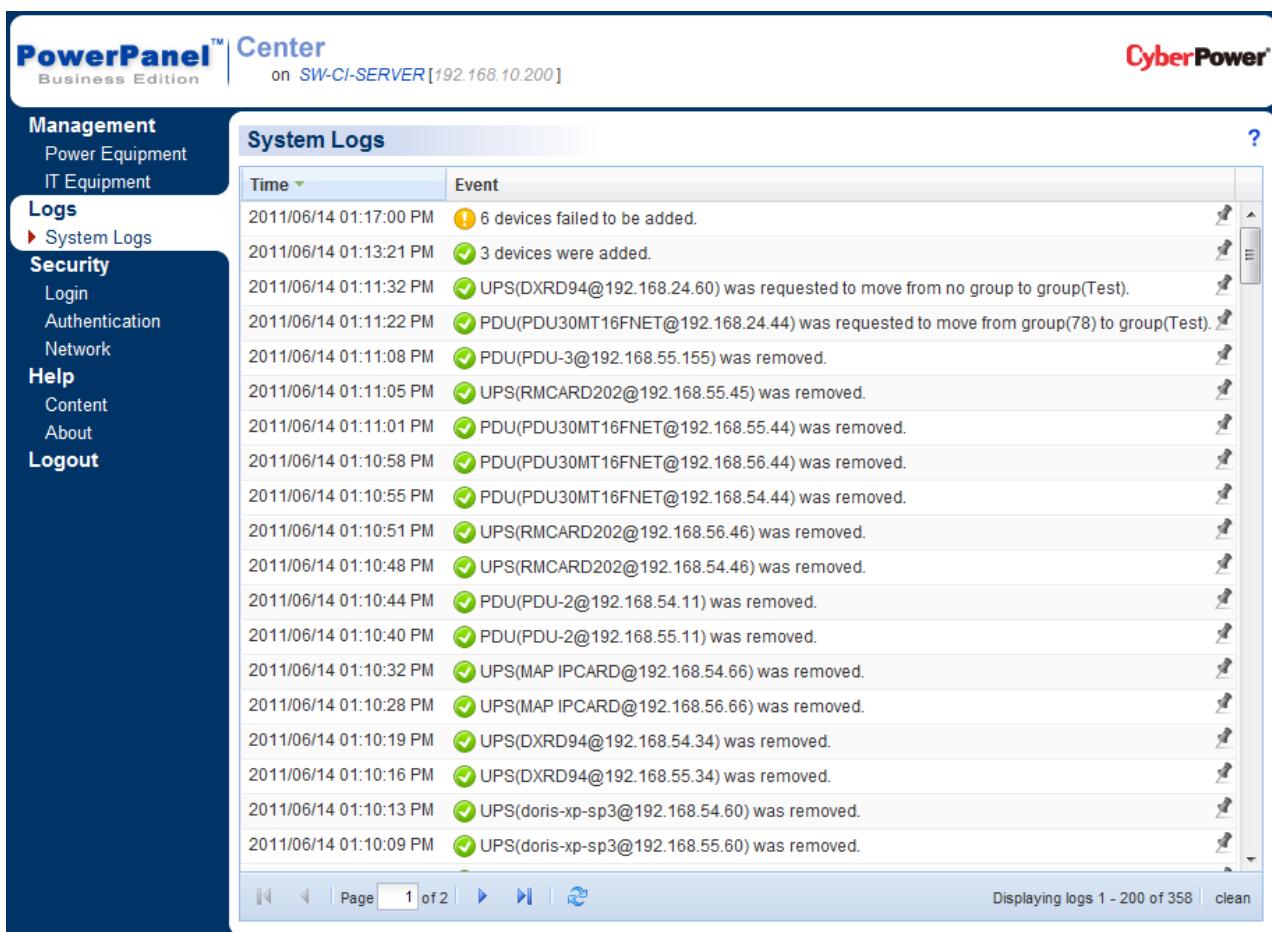
**Locate**

Select **Locate** from the context menu. The computer uses speakers to generate the audible sounds. This item is only available on some UPS models.

## Logs

### System Logs

The **System Logs** page in Center provides users logs of recorded details from operations performed in Center. The logs can be used for analysis or to determine whether operations have been performed correctly.



Time	Event
2011/06/14 01:17:00 PM	⚠ 6 devices failed to be added.
2011/06/14 01:13:21 PM	✓ 3 devices were added.
2011/06/14 01:11:32 PM	✓ UPS(DXRD94@192.168.24.60) was requested to move from no group to group(Test).
2011/06/14 01:11:22 PM	✓ PDU(PDU30MT16FNET@192.168.24.44) was requested to move from group(78) to group(Test).
2011/06/14 01:11:08 PM	✓ PDU(PDU-3@192.168.55.155) was removed.
2011/06/14 01:11:05 PM	✓ UPS(RMCARD202@192.168.55.45) was removed.
2011/06/14 01:11:01 PM	✓ PDU(PDU30MT16FNET@192.168.55.44) was removed.
2011/06/14 01:10:58 PM	✓ PDU(PDU30MT16FNET@192.168.56.44) was removed.
2011/06/14 01:10:55 PM	✓ PDU(PDU30MT16FNET@192.168.54.44) was removed.
2011/06/14 01:10:51 PM	✓ UPS(RMCARD202@192.168.56.46) was removed.
2011/06/14 01:10:48 PM	✓ UPS(RMCARD202@192.168.54.46) was removed.
2011/06/14 01:10:44 PM	✓ PDU(PDU-2@192.168.54.11) was removed.
2011/06/14 01:10:40 PM	✓ PDU(PDU-2@192.168.55.11) was removed.
2011/06/14 01:10:32 PM	✓ UPS(MAP IPCARD@192.168.54.66) was removed.
2011/06/14 01:10:28 PM	✓ UPS(MAP IPCARD@192.168.56.66) was removed.
2011/06/14 01:10:19 PM	✓ UPS(DXRD94@192.168.54.34) was removed.
2011/06/14 01:10:16 PM	✓ UPS(DXRD94@192.168.55.34) was removed.
2011/06/14 01:10:13 PM	✓ UPS(doris-xp-sp3@192.168.54.60) was removed.
2011/06/14 01:10:09 PM	✓ UPS(doris-xp-sp3@192.168.55.60) was removed.

Logs page

Each log has details which can be viewed by clicking the icon next to each log. Using the paging toolbar at the bottom of the log list allows users to view older logs by changing the page displayed, clicking the refresh icon updates the logs displayed in the list.

## Security

### Login

Please refer to **Security/Login** section about how to configure *Account* and *Session* settings.

### Authentication

The Center uses the secret phrase and SNMP community to secure and protect network communication between Agent, Client and the devices. The security settings on **Security/Authentication** page in the Center must be configured.

If the Center establishes the communications with below devices, refer to **Secret Phrase** section.

- A computer which has Agent installed and Client is powered by UPS.
- UPS RMCARD202
- PDU whose mode is not **PDU20SW8RNET** or **PDU15SW8RNET**

If the Center establishes the communications with below devices, refer to **SNMP Community** and **SNMP Trap Community** sections for further details.

- UPS RMCARD201
- PDU with a model name of **PDU20SW8RNET** or **PDU15SW8RNET**

### ***Secret Phrase***

The Secret Phrase is used to create secure network communications between Client, Agent, UPS RMCARD202 and PDUs with a model name other than **PDU20SW8RNET** or **PDU15SW8RNET**. The default phrase is **powerpanel.encryption.key**. The Secret Phrase can be configured on the **Security/Authentication** page in the PowerPanel Applications, or on the **System/Security** page in the PDU and UPS RMCARD web. The Secret Phrase which is used in the PowerPanel Applications, PDU and UPS must match.

**Note:** If the firmware version on the RMCARD202 is earlier than 1.1, you should refer to **SNMP Community** and **SNMP Trap Community** sections for the correct configurations.

### ***SNMP Community***

The Center uses this community to authenticate communication between the PDU and UPS in order to access their information. The default community is **private**. The community can be configured on the **Network/Access Control** page in the UPS remote management card (RMCARD) web or on the **Network/SNMP Settings** page in the PDU web. By default, the PDU/UPS uses **private** as the community with write permission, and **public** with read only permission. The community used by the Center to access the PDU/UPS must have write permission for an administrative power control.

### ***SNMP Trap Community***

The Center uses the community to authenticate the SNMP trap from the monitored PDU and UPS RMCARD. The community default is public. The IP address of the Center computer must be added to the Trap Receiver list on the **Network/Trap Notification** page of the UPS RMCARD and the PDU to ensure that the community must match.

**Note:** The SNMP community is limited to 15 characters in the PDU and UPS RMCARD.

**Note:** If you have firewall software installed, configure the settings to allow access through port 3052 (UDP/TCP), port 53568 (TCP), port 162 (UDP) and port 53566(UDP). These ports must open because the Center uses them to establish the communication with PDU and UPS RMCARD.

## **Network**

Please refer to **Security/Network** section about how to configure *Network* settings.

## **Help**

## **Content**

Please refer to **Help/Content** section about further details.

## About

Please refer to [Help/About](#) section about further details.

## Logout

The **Logout** page allows users to log the user out of the web interface. The user will be asked to assure whether to log out, and users can log out web by clicking the **Logout** button.

## Technical Support

### Troubleshooting

#### 1. I cannot access the PowerPanel® Business Edition web interface after complete installation.

Please follow the below steps resolve the problem:

- Make sure that there is no other application utilizing port 3052 (UDP/TCP) and port 53568 (TCP). Use a command prompt with the command “netstat -o” to obtain information about which ports are used by which programs.
- Ensure the **PowerPanel® Business Edition** service is running on the hosted computer. If the service is stopped, restart the service and then try again in the same way.
- Make sure the port 3052 (UDP/TCP) and port 53568 (TCP) on the hosted computer are not blocked by a firewall.
- Make sure the URL in the address filed of the browser for a remote computer is correct.

#### 2. I have installed the PowerPanel® Business Edition Agent on my computer, but the Agent cannot establish communication with the UPS.

- Make sure that no other application is using the serial port if the UPS is connected with a serial cable.
- Make sure the serial or USB cable is securely and properly connected to the UPS and computer.

#### 3. The Client cannot establish communication with the UPS/PDU.

The lack of communication may be caused by the following conditions:

- The network communication between the Client computer and the UPS/PDU is down.
- The device network address is configured improperly.
- The authentication settings are configured improperly.

Follow the steps below to resolve the problem:

- Verify the device network address is correct.
- Verify the network configuration in the device is correct. Use the **Power Device Network Utility** tool to configure the device network configuration.

- Verify the settings on the **Security/Authentication** page are correct and match the settings of the UPS/PDU. See **Security/Authentication** for more details.
- Verify the port on the **Security/Network** page is matched if establishing communication with Agent.
- Check the network status of the UPS/PDU and Clients.
- Verify firewall settings. Port 3052(UDP/TCP), port 53568(TCP), port 162(UDP) and port 53566(UDP) should be unblocked. The Client communicates with UPS/PDU and Agents using these ports.

#### 4. The battery test failed.

- Replace the batteries if the batteries have used over 3 years.
- Contact **CyberPower** for assistance and replace the batteries if the battery test still fails.

#### 5. The PowerPanel® Business Edition installation failed.

If the installation file is from CyberPower web site, it may have downloaded incompletely or become corrupt. Download the installation file again.

#### 6. I failed to extend the off-delay time of Necessary shutdown time option.

- The communities on the **Security/Authentication** page in the Client and on the **Network/Access of Control** page in the PDU may be not matched. Confirm that the communities with the write permission are matched.
- The Client may use the community without write permission to access the PDU. Please promote the permission of the community which is used by the Client to access the PDU.

#### 7. The web interface is displayed abnormally due to large or tiny size on Google Chrome 3.

It is caused by the default settings for minimum font size on the Google Chrome. Verify the below steps to improve the web pages due to font size:

- Close the Chrome first. Find the preference file located at **Documents and Settings\Users\_Name\Local Settings\Application Data\Google\Chrome\User Data\Default\Preferences** in Windows XP and **Users\User\_Name\AppData\Local\Google\Chrome\User Data\Default\Preferences** in Windows Vista.
- Use the text editor to open preference file. You will find the keyword “*webkit*” in the file and insert *minimum\_font\_size* and *minimum\_logical\_font\_size* in the below example:

```
"webkit": {
    "webprefs": {
        "default_fixed_font_size": 13,
        "default_font_size": 16,
        "fixed_font_family": "Courier New",
        "minimum_font_size": 10,
        "minimum_logical_font_size": 10
        .........(skipped)
```

{  
}

Set both *minimum\_font\_size* and *minimum\_logic\_font\_size* to 10 in order to display the pages normally. Save the preference file and launch the Chrome again to access PPBE software.

**8. The PPBE software cannot send WLM notifications in case of power events.**

- The account which is used to send WLM notifications may be not available. Using the **Verify** button on the **Windows Live Messenger** block to verify the account details is recommended.
- The account which is used to receive WLM notifications may be not available. Using the **Test** button of the WLM account field to verify is recommended.
- The port 1863 used by the WLM service on PPBE software may be blocked by a firewall.

**9. The shutdown occurs earlier than expected time.**

It may be caused by the following conditions:

- When batteries have been used for a long time, they are unable to reach a full charge. Check to see if the output load is too high. A high load on the UPS will cause the batteries to discharge faster and the remaining runtime quickly decrease. Disconnect some load from the UPS to reduce the load in order to extend the runtime.
- Verify that the batteries are fully-charged. If the capacity is too low, please charge the batteries to full capacity.

**10. Pages cannot be displayed after I set up another port number in the Security/Network page.**

The port that was set up in the **Security/Network** page may be occupied by other applications or services. This indicates that the pages can't be accessed through the assigned port. Follow below steps to continue accessing the Agent/Client/Center web:

- Find the **webserver.xml** file located at **<Installation\_directory>/etc/agent** folder on the Agent computer or **<Installation\_directory>/etc/client** folder on the Client computer.
- Use the text editor to open the **webserver.xml** and you can find the **<httpsPort>** tag in the file as below example:

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>  
<webServer>  
    <httpsMode>ENABLE</httpsMode>  
    <httpsPort>port_number</httpsPort>  
</webServer>  
</webServer>
```

Change the port of the **<httpsPort>** and make sure that the port is not occupied by other services or applications. Save the **webserver.xml** file. (**httpsNumber** is numeric from 1 - 65535)

**Note:** The default port number is 53568.

- Find the PowerPanel Business Edition service at the **Control Panel/Administrator Tools/Services** and restart the service in order to access through this new setting.

## 11. The host name and IP address at the Agent's banner on the vMA of the VMware ESX/ESXi host displays *Unknown*.

Follow below steps to correct this condition:

- Run the command ‘*sudo vi /etc/hosts*’ with root permission.
- Add the below snippet with the IP address and hostname.

**192.168.1.1 hostname**

*Note: IP address and host name can be inquired using the commands ‘ifconfig’ and ‘hostname’.*

- Restart the service using the commands ‘*sudo service ppbed stop*’ and ‘*sudo ppbed service start*’
- Login the page again. The host name and IP address will be correct.

## FAQ

### 1. If multiple computers are connected to a single UPS, how do I determine which computer to install the Agent or the Client on to ensure each computer can be shut down gracefully in event of power outage?

The computer that is connected to the UPS with a serial or USB cable should install the Agent, and the remaining ones should install the Client.

### 2. After the PowerPanel® Business Edition installation is complete, how do I access the web interface?

On Windows, you can select the **Start > All programs >PowerPanel Business Edition >PowerPanel Business Edition Agent** (or **PowerPanel Business Edition Client/ PowerPanel Business Edition Center**) for local use. You can also enter the URL, **http://hosted\_computer\_IP\_address:3052**, in the address field of the web browser from a remote computer.

On Linux, you only enter the URL, **http://127.0.0.1:3052**, the address field of the web browser from a remote computer for a local access. You can also enter the URL, **http://hosted\_computer\_IP\_address:3052**, in the address field of the web browser from a remote computer.

### 3. Which operation systems are supported by PowerPanel® Business Edition software? And which browser supports them?

Refer to the **Getting Started/Prerequisites** for more details.

### 4. My Client computer connects to a PDU. How do I ensure the IP address assigned on the Power/Configuration page matches the actual PDU IP address? How do I ensure the outlet configured on the Power/Configuration page matches with the actual connection?

Click the **Identify** button at the **Outlet** block screen. The PDU LCD screen will blink the outlet number on the connected PDU. The PDU IP address can be verified by pressing the select button on the PDU until the IP address displays on the LCD.

**5. What is the difference of the NCL (Non-Critical Load) outlet and CL (Critical Load) outlet? Which equipment should connect to NCL outlet or CL outlets?**

The NCL outlets are only available on specific UPS models and are designed to be powered off early to maximize the battery runtime for the CL outlets. Non-critical equipment such as redundant equipment ,monitors, or other non critical equipment should be connect to the NCL outlets to be powered off early. This will maximize the battery runtime for critical equipment such as servers on the CL outlets.

**6. The UPS/Load page allows users to establish communication with the Client by assigning the Client's IP address. Are there other ways to establish communication?**

Communication can be established by assigning the Agent's IP address on the **Device Network Address** section on the **Power/Configuration** page in the Client. See the **Power/Configuration** for more details about how to establish the communication with the Agent.

**7. How can I make PowerPanel® Business Edition run a program when a particular event has occurred?**

Create a .cmd file and save it into the **extcmd** folder of PowerPanel® Business Edition installation folder. Then write a command to run your own programs into this script file. Please refer to the **default.cmd** in the **extcmd** folder to write your own script.

**8. I am not sure what the IP address of the UPS/PDU is. How can I obtain the correct IP address?**

Use the **Power Device Network Utility** tool to help you to find the correct IP address of UPS/PDU. This device list will list the all CyberPower device's IP address on the local network.

**9. How do I uninstall PowerPanel® Business Edition?**

On Windows, go to **Start > Control Panel > Add or Remove Programs**. Click the **Change/Remove** button of **PowerPanel® Business Edition** to uninstall the program.

On Linux and VMware ESX/ESXi, only PowerPanel® Business Edition Client can be installed. The default installation directory is **/usr/local/ppbe** on the Linux platforms and **/opt/ppbe** on VMware ESX/ESXi. Users can execute the **uninstall.sh** command in the installation directory to uninstall the program.

**10. How can I get a notice when a power condition has cleared?**

When a power condition is clear, it will broadcast a notification and also run the command file. A custom script can be created for events. The script can utilize the environment variable **EVENT\_STAGE** to

compare the key **OCCUR** to identify an event that has occurred or **FINISH** to identify an event that has cleared.

## 11. What network protocol is used in PowerPanel® Business Edition?

**SNMP** is used on communications between Client, Center, PDU or UPS with remote management card.

**HTTP** and **HTTPS** are used between the Agent and the Client.

## 12. What the network ports are used by PowerPanel® Business Edition?

Port 3052 (UDP/TCP), port 53568 (TCP), port 162 (UDP) and port 53566(UDP)

## 13. I try to set the Client to establish communication with one of PDUs. How do I identify the targeted device IP?

Refer to the [Easy-to-Setup Device IP](#) for details.

## 14. How do I ensure that the SNMP settings between the Client and UPS/PDU are properly setup?

To receive the trap notification from the UPS/PDU all the time, follow steps to verify the SNMP settings:

- Open the **Network/Trap Notification** page on the UPS/PDU web and the **Security/Authentication** page on the Client.
- Confirm that the IP address of the Client can be found on the **Network/Trap Notification** page of the UPS/PDU web. If the IP address can be searched, skip the step 3.
- If the IP address of the Client could not be found, click the **Trap Receiver** shortcut of the **Network/Trap Notification** page to enter the **Trap Configuration** page. Enter the required data to add a new trap receiver.
- If the IP address of the Client could be found, verify the SNMP settings are matched.

## 15. How do I determine that if my computer is using hibernation or not?

If the operating system is **Windows 2000**, **Windows XP** or **Windows Server 2003**, please follow the below steps to enable the hibernation:

- Open Power Options in the Control Panel. (Go to **Start > Control Panel > Power Options**.)
- Click the Hibernate tab, and then select the Enable hibernate support option. Click the **OK** button to close the **Power Options** dialog box. The hibernation has been enabled. If the tab is not available, your computer doesn't support this hibernation.

If the operating system is **Windows Vista**, **Windows 7** or **Windows Server 2008**, please follow the below steps to enable the hibernation.

- Open the **Command Prompt** dialog box.
- Use the command **powercfg.exe -hibernate on** to enable the hibernation.

## 16. Which series does my UPS model belong to?

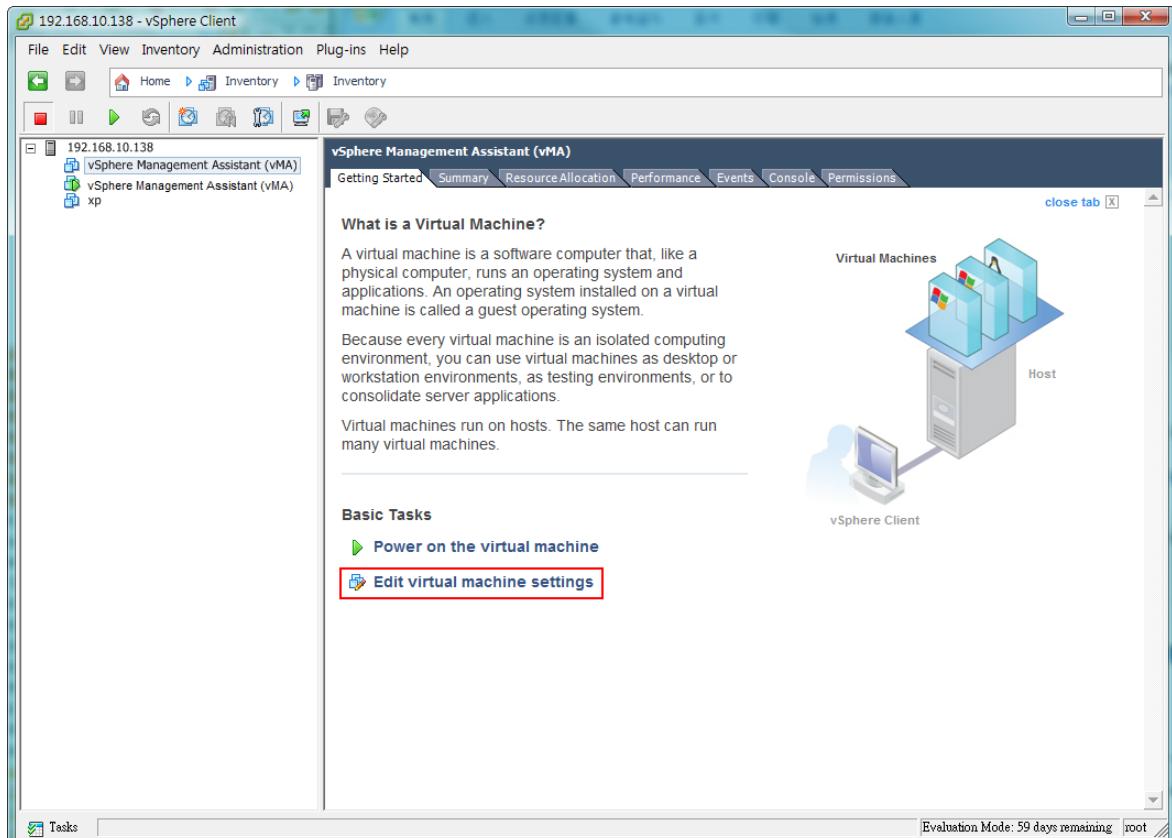
Check the UPS model and determine to which series your UPS belongs:

- If the model name conforms to the format of “OLxxxxRMXL”, “OLxxxx”, it belongs to **Smart App Online** series.
- If the model name conforms to the format of “PRxxxxLCDRM”, “PRxxxxLCDRT”, “PPxxxxSWRM” or “PPxxxxSW”, it belongs to **Smart App Sinewave** series.
- If the model name conforms to the format of “ORxxxxLCDRM” or “ORxxxxLCDRT”, it belongs to **Smart App Intelligent LCD** series.
- If the model name conforms to the format of “OPxxxx” or “CPSxxxxAVR”, it belongs to **Smart App AVR** series.
- If the model name conforms to the format of “OLxxxxTEXL” or “OLxxxxEXL-M”, it belongs to **Paragon Tower** series.
- If the model name conforms to the format of “PRxxxxELCDRT” or “PRxxxxELCDRTXL”, it belongs to **Professional Rack Mount LCD** series.
- If the model name conforms to the format of “PRxxxxE”, it belongs to **Professional Rack Mount** series.
- If the model name conforms to the format of “PPxxxxE”, it belongs to **Professional Tower** series.
- If the model name conforms to the format of “ORxxxxELCD”, it belongs to **Office Rack Mount** series.
- If the model name conforms to the format of “OPxxxxE”, “OPxxxxTE”, “OPxxxxUE” and “OPxxxxUTE”, it belongs to **Office Tower** series.

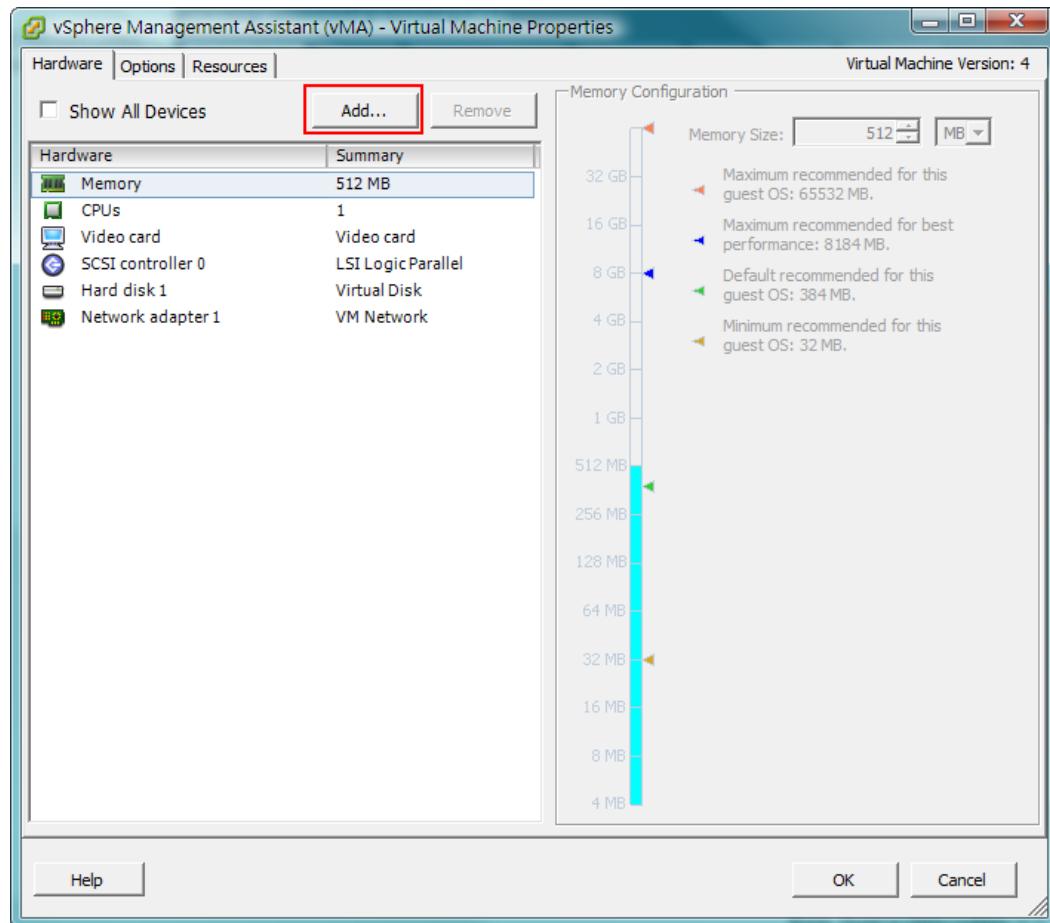
## 17. How do I add USB connection to vMA (vSphere Management Assistant) on VMware ESX/ESXi for Agent to establish communication?

Follow these steps to add a USB connection:

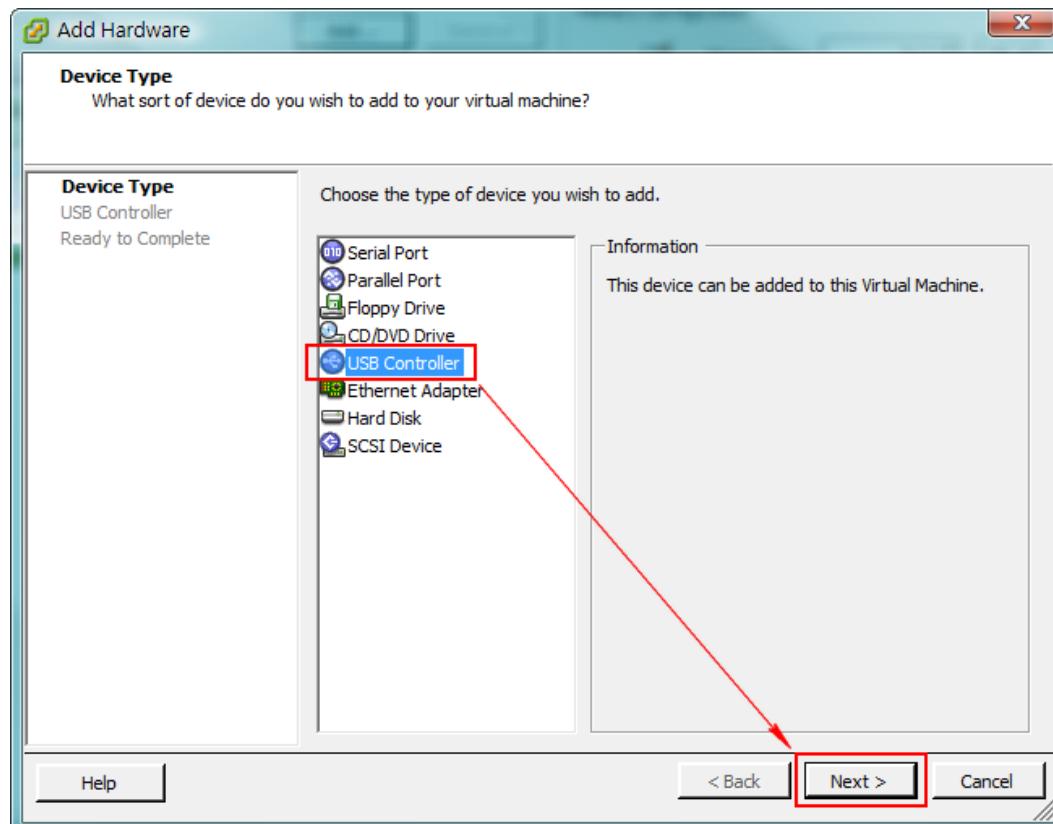
- Launch **vSphere Client** to click **edit virtual machine settings** to the target vMA.



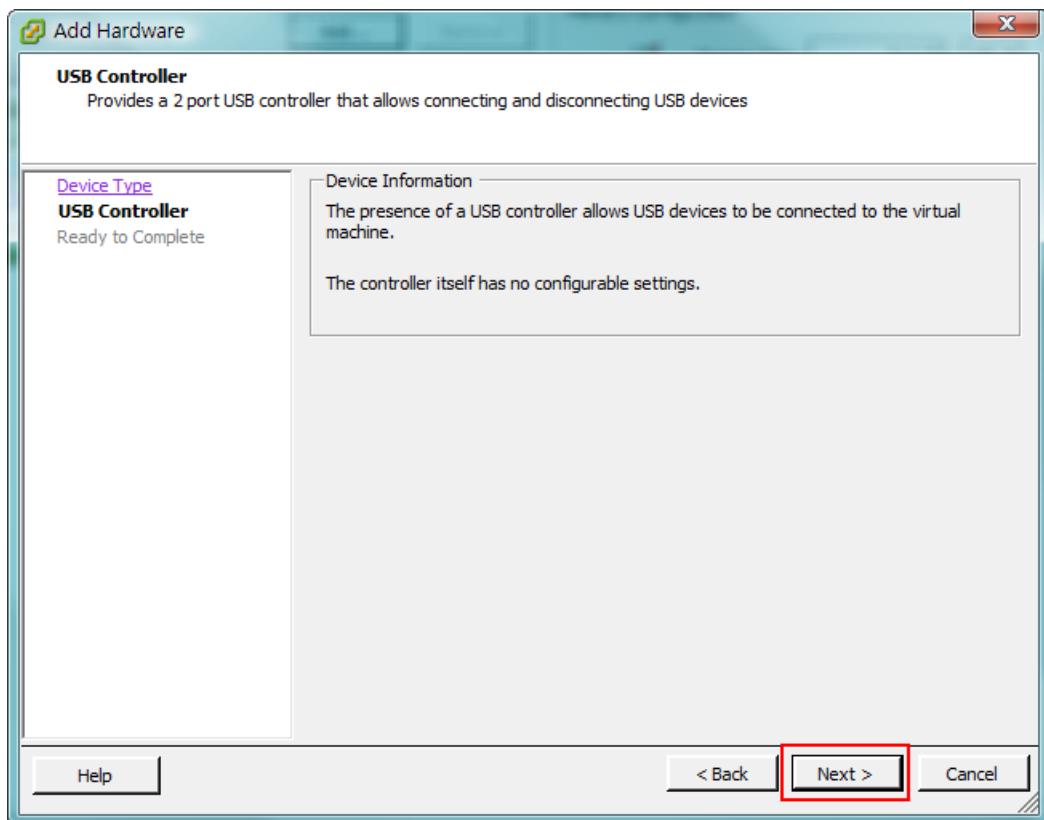
- Click **Add** button of the **VMware Machine Properties** to add a USB controller.



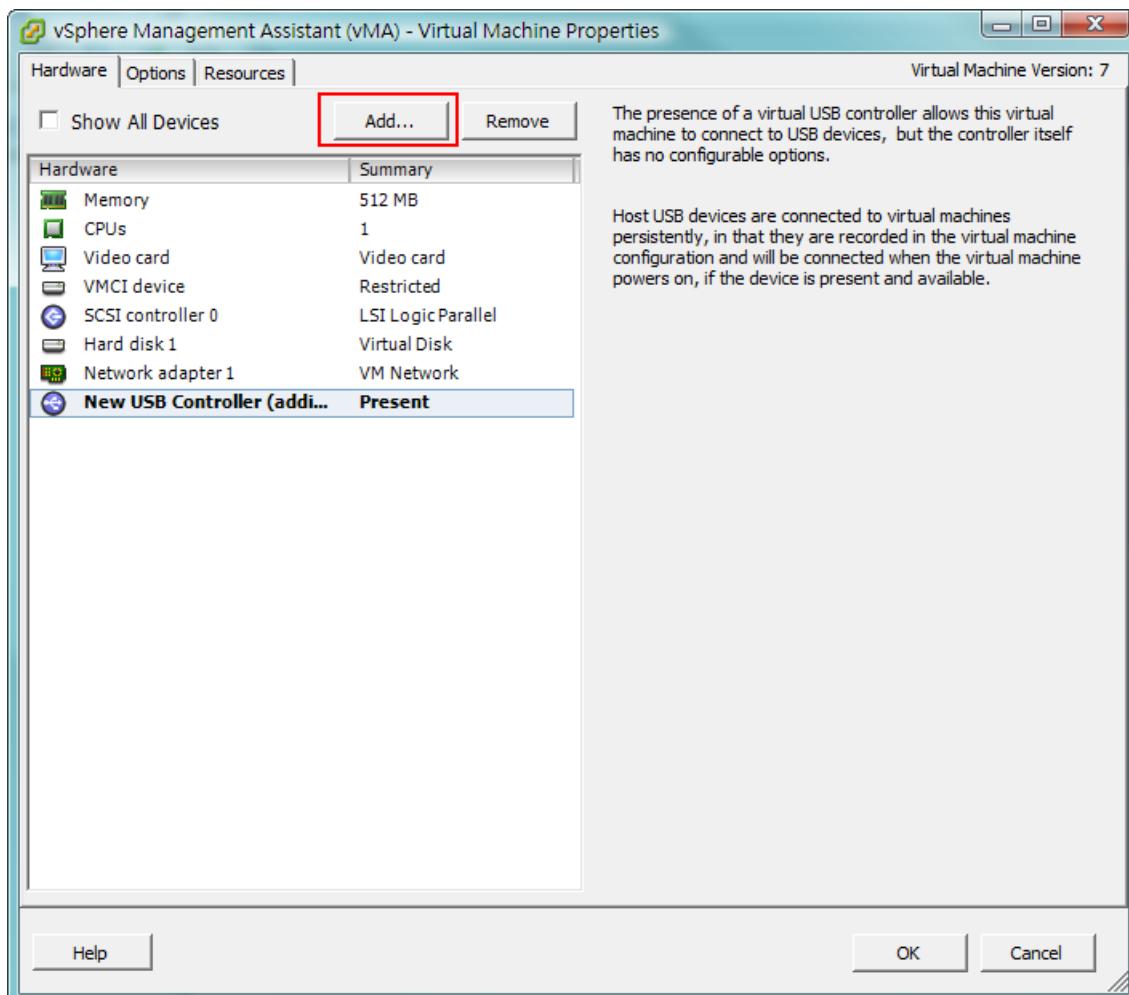
- Select **USB Controller** from the list and click the **Next**. (Select **Serial Port** if using serial connection.)



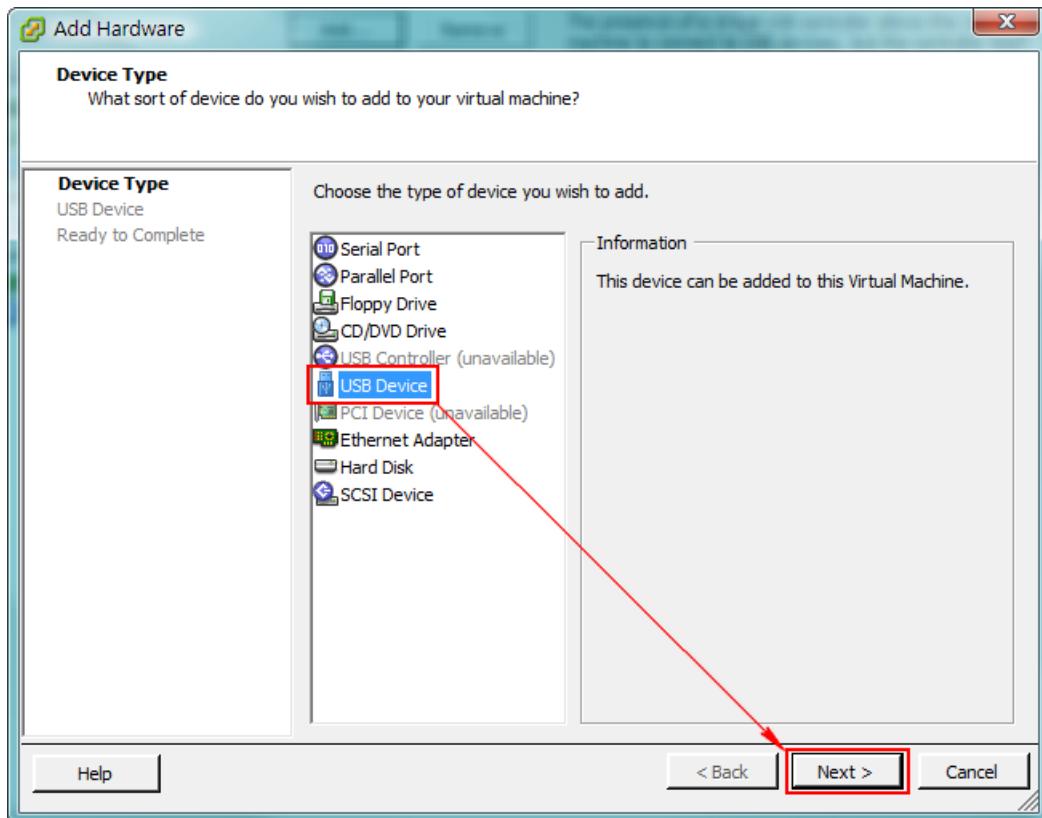
- This will add a **USB Controller**, click **Next** to add a **USB Device**.



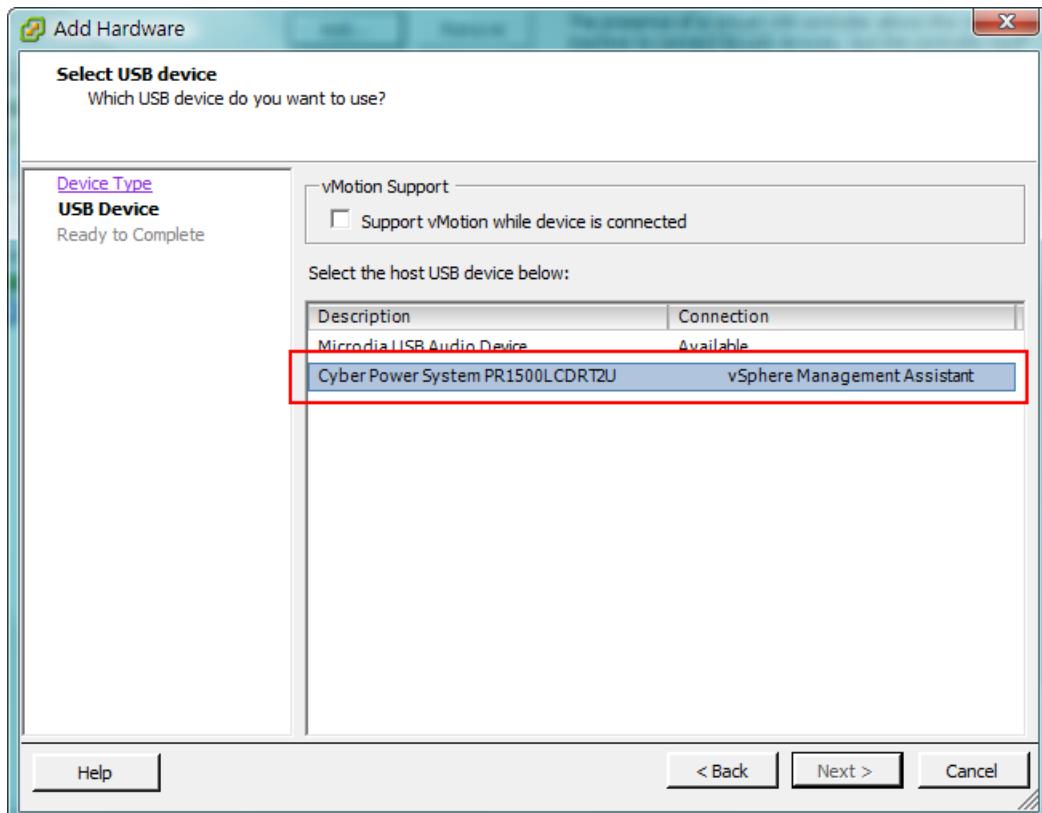
- Select **New USB Controller** and click **Add** to add a USB device.



- Select **USB Device** item and click **Next** to proceed.



- Select the USB Device of the target UPS which is connected with vMA. Click the **Next** button to finish.



#### 18. How do I upload the installer to vMA?

- Login the **vSphere Client**.
- Select the VMware host.
- Click **Configuration**
- Select the target datastore from the right hand side.

- Right click the target datastore and click **Browse Datastore**.
- Click **Upload** button on the toolbar and select the file you want to upload.
- Click **OK** button to continue with the upload files into the target datastore.

## Glossary

- **Citrix XenServer:** A virtual-machine monitor allows several guest operating systems to execute on the same computer hardware concurrently. XenServer is supported by Citrix systems, Inc.
- **IP address:** An **IP address** is a series of numbers that identifies a particular computer or NIC on a network. **IP** is an abbreviation for **Internet Protocol**.
- **HTTPS:** Abbreviation for HTTP Secure. It provides encryption and secure identification of servers by using HTTP with SSL/TLS protocol. HTTPS connection is usually used for the sensitive transaction.
- **Power Device Network Utility:** Is an easy to use tool to setup network configurations of the UPS RMCARD/PDU. This includes setting the IP address, subnet mask, or gateway of UPS RMCARD/PDU.
- **PDU:** A PDU is a device which provides power output controls for individual outlets and connected equipment. **PDU** is an abbreviation for **Power Distribution Unit**.
- **SNMP:** The simple network management protocol. It is used by network management systems for monitoring network-attached devices for conditions that warrant administrative attention.
- **SSL:** Abbreviation for **Secure Sockets Layer**. SSL is a transaction security standard that provides data encryption, server authentication, and message integrity.
- **TCP/UDP:** Family of protocols for the transport and network layers.
- **TLS:** Abbreviation for **Transport Layer Security**. TLS is a cryptographic protocol which provides communication security over the internet. TLS and SSL provide data encryption and server authentication for message reliability.
- **vMA:** Abbreviation for **vSphere Management Assistant**. A virtual machine that includes prepackaged software and supported by the VMware, Inc. allows administrators to run scripts and agents to manage ESXi hosts.
- **VMware ESX/ESXi:** An enterprise-level computer virtualization product offered by VMware, Inc. It is a component of VMware's larger offering, VMware Infrastructure, and adds management and reliability services to the core server products.